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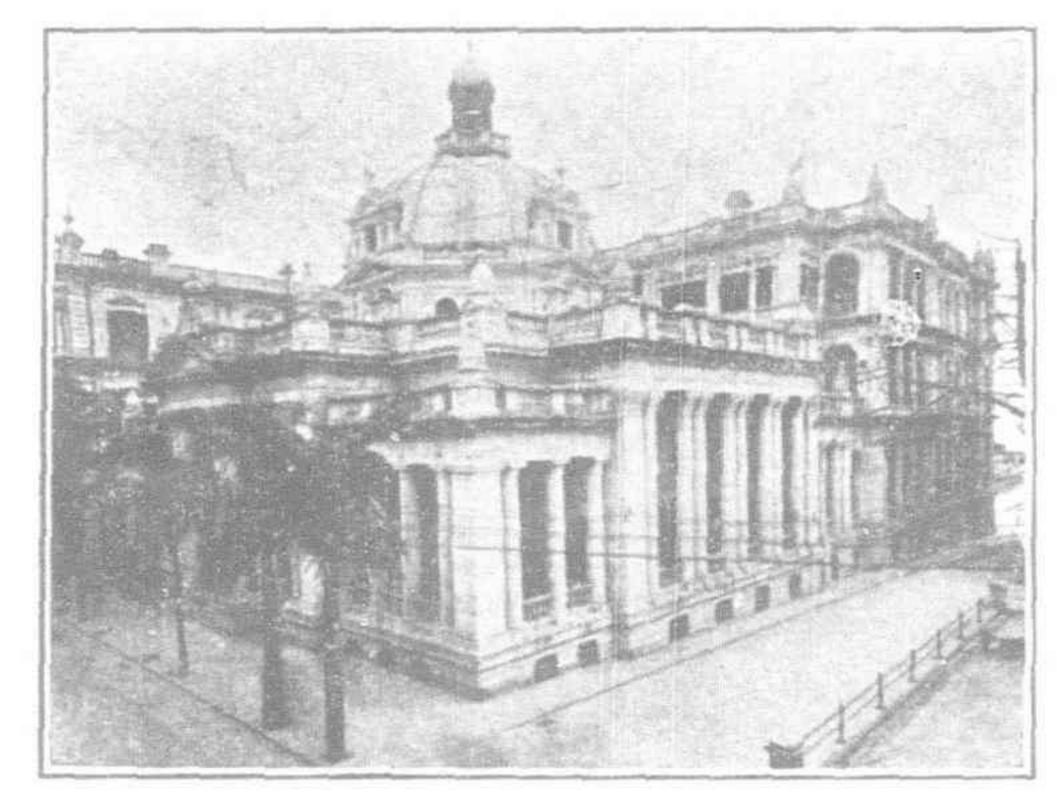
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# HE FAR EASTERN REVIEW

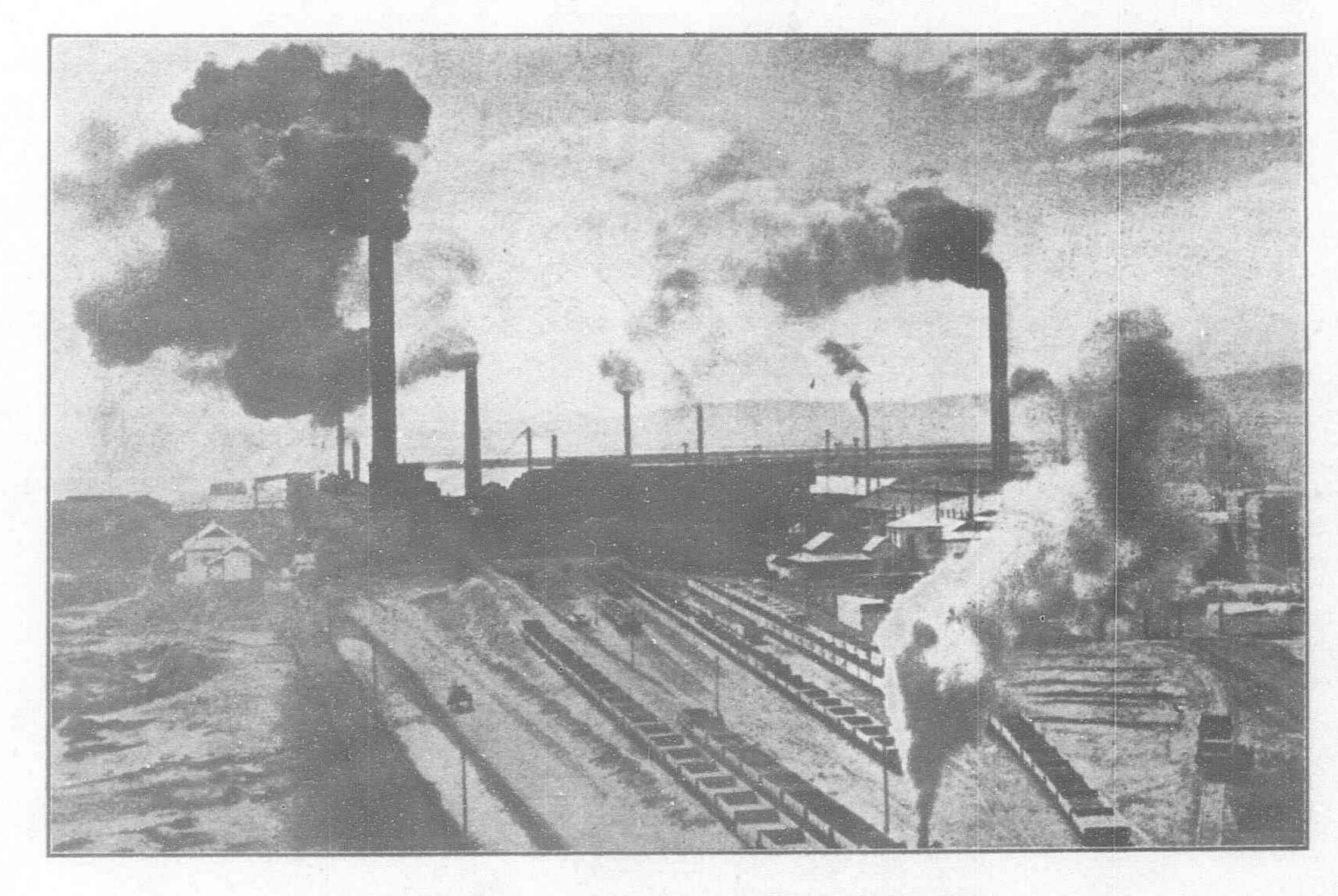
MERCE @ ENGINEERING @ FINANCE

## AUSTRALIA'S MINERAL WEALTH

Among all the mineral producing countries of the world Australia is entitled to an advanced place as is indicated by the remarkable output that has marked the development of the mineral wealth of that country from the inauguration of the mining industry there until the present

out-distanced the older agricultural, pastoral, and timber export industries, though they also are of great importance, and yearly expanding. The agricultural settlers of the south had not yet penetrated 100 miles from the coast, and the pastoralists were still engaged in founding

to nearly 18,000. About one-third of this number find employment in the great mines of the famous centre of Kalgoorlie, where, on a strip of country six miles long and two miles wide, there are four townships and two large modern cities.



AN ADJUNCT OF A FAMOUS AUSTRALIAN SILVER MINE

The Broken Hill Proprietary's Smelters at Port Pirie, South Australia

time. In a recent special number of the Australasian Traveller on the subject of "Australia l'oday and New Zealand' much space is devoted to minerals and mining and the statistics show that Australia's total mineral production during the year 1905 was worth £25,051,421. Of this the gold production alone amounted in value 10 £15,559,641; silver and silver lead, £3,113,022; coal, £2,337,504; copper, £2,189,550; tin, £989,627 and other minerals, £862,077. From the inauguration of the industry until the end of 1905, the total value of the mineral output amounted to £638,839,218.

## WESTERN AUSTRALIA

Western Australia's premier industry to-day mining-principally gold-mining, says the Australasian Traveller. Under the stimulus efforded by the successful exploitation of its amous gold deposits, the mining industry has

stock stations along the northern seaboard, when gold was first discovered in the Kimberley region just 20 years ago. Though intrinsically the goldfield then found was not of great value, and its situation within the tropics precluded all chance of working it profitably at that time, the Kimberley discovery was but the first step in the march of events which has placed Western Australia in the front rank of the gold-producing countries of the world. Experienced prospectors flocked in from all parts of Australia, and the early explorers' tracks were followed afresh to vast distances inland-wherever, in fact, there was known to be water or a rock reservoir noted in the map of the great riverless region.

Some idea of the extent to which the population of the State is directly supported by the wages paid to miners may be formed from the fact that last year the total number of workers in the mines above and below ground amounted

But Kalgoorlie is only the central section so to speak, of the great gold belt inland. Fifty miles further east, in a direct line, are other gold mines, with a railway in that direction twelve miles to Kanowna. To Norseman, 140 miles toward the South Coast, mines exist at intervals all the way, and there is a cry for railway connection to them, either by extending the lines built into the forest in that direction for firewood for the Kalgoorlie ore-treatment furnaces, or, more directly, by branching from the main line 25 miles further back at Coolgardie. Running northward and eastward from Kalgoorlie, the railway passes through Paddington, Bardoc, Menzies, Kookynie, Mount Malcolm, Mount Morgans, and on to Lavertona distance of 216 miles—but still there are mining centres beyond. Burtville, 22 miles south-easterly, and Duketon, 70 miles further

(Continued on page 343.)

## THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

PUBLISHER AND EDITOR

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The management of the FAR EASTERN REVIEW announces with regret the resignation of Mr. Robert B. Westcott, associate editor, after over two years' connection with the editorial staff.

Mr. Westcott has been closely identified with every progressive step made by the Review during his association with the publication.

Mr. William Crozier, who recently resigned from the editorial chair of the Manila American after serving for over seven years in that capacity, succeeds Mr. Westcott as associate editor.

## BLOW TO AMERICAN SHIPPING

That the American steamship companies operating in Pacific waters and endeavoring to secure a fair share of Oriental trade are discouraged goes without saying and they are no doubt embittered by the fact that even congress discriminated against the Pacific lines by striking out the provision for their benefit in the original draft of the subsidy bill. The first line affected was the Boston Steamship Co. as the management find it impossible to compete with the subsidized Japanese lines. But until the original subsidy bill was tampered with it was the purpose of the Boston people to continue their vessels in the trade on the Oriental run. Three of the vessels have already been withdrawn and by the first of June the balance will be diverted. The following Seattle dispatch gives some idea of the discouragement felt by this line upon receipt of advices there announcing the fate of the subsidy bill:

"Because, it is stated, of lack of proper subsidy encouragement, the Boston Steamship Company's vessels Lyra, Hyades and Pleiades will be withdrawn permanently from the Oriental run. The steamships Tremont and Shawmut will continue to visit Oriental ports for the present. By the first of June the other three steamships named will be diverted to another run, probably between Seattle and Nome. Frank Waterhouse, vice-president of the Boston Steamship Company, last night announced that the vessels would be taken from the Oriental run, confirming Boston despatches to the same effect. 'We had not intended to take the vessels off,' said Mr. Waterhouse, 'until changes were made in the Ship Subsidy Bill, which, we think, will be detrimental to business. We are unable to compete with Japanese lines, which have every encouragement from their government and are paid a subsidy for every mile they travel.' "

The disadvantage under which American shipping islaboring in competing with the subsidized lines of almost every maritime power, is the subject of general comment not only in the American but the foreign press and especially so since the Subsidy Bill died in the House of Representatives. The China Critic commenting on the fate of the bill says:

"The defeat of the Ship Subsidy Bill will, no doubt, be felt greatly by President Roosevelt, who was responsible for the Bill being introduced to rescue American shipping from its present crippled condition. Nearly all other civilized nations subsidize their shipping, Russia, China and United States being the sole exceptions. Great Britain has paid out in mail and Admiralty subsidies about \$250,000,000 since she entered upon her policy in 1840. France found that her adoption of the 'freeship' policy resulted in ruinous competition to French shipbuilding, and she is now paying in mail subsidies alone about \$5,000,000 yearly, and about \$3,500,000 additional for construction and navigation bounties. - Germany found the 'free ship' policy a failure, when she too came to the aid of the merchant marine in 1885 and is now paying over \$5,000,000 yearly, which covers a subsidy of \$1,047,000 yearly to the North German Lloyd for a mail service to China and Japan. The Italian subsidy and bounty system costs the Government about \$3,000,000 yearly. Under the subsidy system the Japanese merchant marine increased nearly eight hundred thousand tons in less than ten years. Norway, Sweden. Spain and Austria-Hungary also pay large bounties to ship-yards and subsidies to cargo vessels. All of which goes to prove that American shipping is under a great disadvantage as compared with that of the other nations."

In the meantime the organizing of the Nippon Kisen Kaisha combine with a capital of 20,000,000 yen for the purpose of capturing the far eastern trade demonstrates that the Japanese are alive to the opportunities offered at this time. In this connection it is of interest to note the comment of the Japan Chronicle on the subject. That paper says:

"That one of the aims of the new undertaking is to compete severely with some of the foreign steamers trading in Far Eastern waters, possibly ousting them, there can be little doubt, and the competition between the Nippon Kisen Kaisha and the foreign shipping companies is sure to be even keener than that between it and the other Japanese concerns. The promoters point out that rice from Siam and Rangoon, sugar from Java, phosphatic rock from the Pacific Islands, etc., are all at present imported to Japan by foreign steamers, and it is such trade that the Nippon Kisen Kaisha seeks to develop and promote. So that while the

competition with the existing Japanese lines is likely to be keen, the foreign shipping industry in the Far East—already hard hit by Japanese enterprise—is likely to receive a further blow by the formation of the Nippon Kisen Kaisha. The promoters anticipate success in this direction by reason of more economical working than can be employed on the foreign vessels, and also on account of the anticipated Government bounty—by which they hope to make good any losses that may be incurred."

## COPPER IN THE FAR EAST

According to the Chugai Shogyo the copper mining industry in Japan has a bright future and submits the following table of exports and values for the last four years:

1903 1904 1905	QUANTITY. Kin. 46,024,966 34,903,132 34,040,107 56,670,867	Yen. 14,906,033 12,907,775 16,048,452 25,104,955
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The decrease in quantity for 1904 and 1905 was no doubt due to the late war, during which a considerable quantity of the mineral was consumed by the Japanese naval and military authorities. A noticeable feature was that, whereas the exports for 1905 were comparatively less than those of 1904, there was a rise in prices. With the increasing market value as above, it is but natural that the output of Japanese copper should also increase in proportion. The journal therefore estimates that this year's shipment of the same will amount to about yen 35,000,000 in value.

In the Philippines, especially in Lepanto, great interest is being taken in the development of the rich deposits of copper. At the present time the Philippine commission has under consideration an application for a franchise for a railroad from the Mancayan copper district to the China sea, presented by the Lepanto Mining Company, and the promoters are sanguine that in a few years the output from their holdings there will exceed that of Japan. American and British capital is said to be interested in a company being formed to develop this valuable property.

## COAL SUPPLY OF THE ORIENT

The coal supply of the Far East at present is secured in a large measure from either India, Australia, and Japan, but there is prospect that within the next few years the competition in the coal markets will be much keener if the coal fields in the Malay Peninsula, the Philippines and China in any measure come up to expectations, and sufficient capital is made available for their development.

In the Philippines the coal fields of Batan island on the east coast and the large area awaiting development in Cebu are attracting the attention of American capitalists and already the Philippine government is considering the development of the Batan mines, while the railroad companies have been looking over the deposits with a view to securing their coal supply in the islands. With what success these fields may be worked is yet a matter of some little conjecture.

Reports of discoveries in Manchuria of coal deposits and the fact that engineers are going over all the ground carefully would indicate that there is prospect of unusual development during the next few years.

At the present time the Philippines secure over 90 per cent of their coal from Australia, where formerly Japan furnished the greater part of the supply.

Commenting on the competition between Japan and India in the Far Eastern Coal markets the Penang Gazette says:

"Japan is at present India's only real competitor in the coal markets of the Far East; but considering the difference in the extent of the coal-fields of India and those of Japan, it is reasonable to conclude that the day is not far off when India will control the Oriental coal markets. The conclusion is based on the fact that Japan has but 6,000 square miles for coal-fields. Her present annual output is about 10,000,000 tons, which is in excess of Indian mines, but this is a small tonnage compared with what India is capable of producing. The latter has the coal, abundant cheap labor, and the capital; also convenient water transportation to the sea. The hauls by rail are short and comparatively inexpensive. This service is being supplied as rapidly as possible to meet the demands of the inland trade.

"In referring to the coal future, the Chief Inspector of Mines for India observes that the chief need for a sound development of the Indian coal-fields is improvement in superintendence and working capacity of the miner. The methods of working the mines are crude and unscientific, and this results in not only a smaller output than

should be expected but also in a great waste. To overcome this condition the Government of India has established a college, which has a large attendance, in Sibpore, for the scientific training of native engineers with special reference to coal mining. It is believed that the classes at this institution will furnish the needed skilled assistants to foreign superintendents.

"The Indian miner performs work underground much as the Indian laborer does on top of the ground. Whatever kind of labor he undertakes he brings to it an easy-going manner and bone and muscle that are far inferior to that of the English miner or the miners of America. In fact, he accomplishes less than half the results of the western miner. He has not the physique, having inherited small bones, light muscles, and an easy way from his ancestors. It is believed, however, that he is growing stronger and becoming more capable, and that in time the coal miners of India will by heredity become almost equal to coal miners anywhere, at least to those of Japan."

## BLAMES AMERICA'S POLICY IN THE PHILIP-PINES

The announcement that the Oriente Cigar Co. of Manila had decided to transfer its factory to Kowloon in order to have the advantages to be derived from cheaper labor, is welcomed by the Hongkong press. The South China Morning Post, while congratulating Hongkong on the transfer of this important manufacturing plant takes occasion to call attention to the unwise policy of the United States in extending the provisions of the Chinese exclusion law to the Philippines and maintaining a high tariff which placed a heavy duty on the cedar imported for the manufacture of the cigar boxes. This is termed by the South China Morning Post as "a blow indirectly dealt at a great industry by the United States government."

dustry by the United States government." That paper says: "The welcome announcement that the wellknown Oriente Cigar Company, of Manila, has made arrangements for commencing business on an elaborate scale at Kowloon will be a cause of gratification to residents of Hongkong, and of corresponding vexation of spirit in Manila. So much depends upon this experiment that, in order to obtain a clear view of the basic causes which have led to the change, a brief summary of existing conditions in the Philippines may be given. Under Spanish rule, the tobacco trade of these islands flourished, and Manila cigars became famous throughout the world for quality and cheapness. The revenue was large and the trade afforded profitable employment for thousands, besides stimulating the cultivation of the leaf. When the United States Government acquired the islands, a new and unfortunate era for the tobacco manufcturers began. A high tariff wall maintained the landed cost of such necessary material as the cedar used for boxing the cigars, and an internal revenue tax took away a large slice of the manufacturers' profits, and its method of collection has become also a constant 'vexation of spirit.' In addition, the Filipino found that there was money in politics, and dignity and a competence awaiting him behind shopcounters. Chinese were excluded, and the very matural result was that the price of labor became much dearer. If cheap labor could have been obtained, the problem would have been less difficult, but the exclusion laws and regulations have now put an end to any hopes of relief. The inevitable result of this has been a heavy increase in the cost of production, and consequent diminution of profits. If the public would continue to smoke as many dear cigars as they formerly smoked cheap ones, then the blacklem would be solved, but such a glorious freak of human nature can only be conceived the imagination. The blow indirectly dealt at a great industry by the United States Government has resulted in the transfer of one of the Principal factories from Manila to Kowloon. A large piece of land near the Steam Laundry, we understand, been acquired and a modern will be installed. As an experiment mino workmen will probably be imported, if the cost prove too heavy, or other diffi-Culties arise, the Oriente Company may train utilize Chinese labor. As all the material be imported free of charge, and a great ket lies at the door of the factory, the enterof the company should be amply rewarded. he United States authorities place a prohib-

export duty on cigar leaf, then the leaf

hust be a matter for hearty congratulation

be obtained from Java or Cuba or elsewhere.

to the community of Hongkong that the near-sighted policy of the American Government has driven the Oriente factory to our shores, and there are many who confidently expect that, with the success of the 'Hongkong Cigar' and the continuance of the vexatious policy in Manila, the bulk of the Philippine cigar factories will find a more congenial habitat on British territory. Such a consummation is devoutly to be desired from the point of view of those who have at heart the increased trade and prosperity of this colony."

## THE TRADE OF PORTO RICO

The Far East journals, Okraina and Dalny Listok, publish some information concerning the activity of the Japanese in the southern portion of Saghalien. Thus, on December 6, the railway between Korssakovski and Vladimirskoye was opened. This line, which is only of a temporary character, has cost \$135,000; it is 30 miles in length and has six stations. At present nearly all the places in South Saghalien are connected by telegraph. The Japanese Government has decided to intrust the civil administration of Karafuto, that is, Saghalien, to the ministry of the interior and not to the ministry of war, and a colonial department for administering Karafuto, Hokkaido, and Formosa will be formed in the ministry.

## JAPANESE DEVELOPMENT OF SAGHALIEN

Figures issued by the Bureau of Statistics of the Department of Commerce and Labor show that the trade between the United States and Porto Rico in the calendar year 1906 will exceed \$40,000,000 against less than \$4,000,000 in 1897, the year before annexation.

The value of merchandise sent from Porto Rico to the United States in the ten months ending with October, 1906, is \$19,320,137, and of merchandise sent from the United States to Porto Rico in the same period \$16,509,946, making a total for the ten months of \$35,830,083, and thus giving apparently good ground to expect that for the full twelve months ending with December the total will be found to be more than \$40,000,000. In the calendar year 1897, the year immediately preceding annexation, the total imports into the United States from Porto Rico were \$1,943,251, and the total exports to that island \$2,023,751, making a total of \$3,967,002, or less than one-tenth of the total estimated for 1906.

In 1896, 14 per cent of the exports of Porto Rico came to the United States and 21 per cent of its imports were sent from here, but now about 87 per cent of the trade in both imports and exports is with this country. At the same time its total trade has nearly doubled.

## AMERICANS SUPREME IN MANCHURIAN TRADE

W. A. Graham Clark, United States special agent, writes the following report upon his return from a trip through Manchuria, undertaken for the purpose of getting behind the scenes and obtaining direct information as to the conditions that are at present blocking American trade there:

Manchuria is a very important market for American piece goods. It is the one section of China in which American piece goods practically monopolize the market. Of the cotton piece goods imported over seven-eighths of the total number of pieces are American. The trade of Manchuria is of more importance to the United States than to any other nation with the possible exception of Japan.

Finding some \$50,000,000 worth of cloth stacked up at Shanghai, a great part of it American, and that—though not the sole cause—one main factor was the lack of buying from Manchuria, I went north to study the country, ascertain if the slack demand was due to the effect of the war or to other causes and to see what stocks were held in the interior and what prospect there was of an early resumption of active business for our mills. Every point of importance to American trade interests south of Harbin was visited.

#### AMERICAN STOCKS HEAVY.

According to the best information obtainable, the stocks of piece goods at the main points in Manchuria in November, 1906, were found to be as follows:

	Piece-g	oods stoc	ks in bales	g : 0
	American.	Japanese.	Chinese.	Stock yar in bales, I dian an
Nieuchwang Mukden Tieling Kwanchengtze Kirin	2,000 1,000 15,000	3,000 3,000 2,000 300	10.000 1,000 1,000 10,000 20,000	300 600 500 1,000

These approximate figures are fairly correct. As shown in the table, the stocks of American goods now on hand at the five main points are some 63,000, and, allowing 12,000 as covering the stocks at Hsinmintun, Chang-tu-fu, Liaoyang, and all the other smaller places throughout Manchuria, the total stock of American goods on hand is probably in the neighborhood of 75,000 bales.

For the four years previous to 1905 there was an average of 1,920,077 pieces imported annually, which, in bales, would be approximately 58,000. In 1905 there was imported 3,890,769 pieces, which was approximately 114,000 bales. There was thus imported in 1905 a two years' supply. Assuming that the normal stock in the country at this time of year is 50,000, there are 25,000 bales, or six months' supply above the normal, now on hand. Adding to this the larger Chinese stocks and Japanese stocks, a new factor, there does not seem much chance of new business for American mills until the present stocks are absorbed. This is the view taken by the large Chinese merchants, none of whom expects to send many buying orders to Shanghai before fall.

INCLUDED WAR SUPPLIES.

The Japanese stocks of 8,300 were put down as estimated by Chinese merchants and by Japanese agents, but seem large, in view of the fact that the Cotton Cloth Export Association was only formed in May, and was to export 1,000 bales monthly, or 12,000 a year. In September and October, however, they imported much more, the total bales coming forward direct from Japan being 3,082 and 2,676 bales, respectively, for the two months.

Even then their stock of probably more than 10,000 bales, considering stocks at all points, seems disproportionately large, and can only be explained by considering that before the Cotton Cloth Export Association was formed by the Mitsui Bussan Kaisha there was a large quantity of cloth brought in under the head of "war supplies" and put into the channels of trade. As the "Man on Donkey" chop of the Miye Mills, and the "Standing Horse" of the Osaka Mills are still on the market here, and were known to the trade before the two and three other mills' cloths had stamped on them the "Two Cubs" chop of Mitsui, this is probably the explanation.

Both the Japanese and American bales of sheetings contain 800 yards of 36-inch cloth, while bales of drills are 600 yards of 30-inch cloth. The Chinese bales are more variable, but contain approximately 675 yards of cloth, 14 to 18 inches in width. There was a big increase in shipments of this cloth into Nieuchwang in 1905 over 1904, the increase being \$2,242,640 (gold) in value. Like other cloth, however, this native-made cloth has experienced the effect of the depression, and the stocks on hand are larger than usual.

## CHINA'S COPPER SUPPLY

The Chinese Government realizes the great demand for copper that exists by the provincial mints for the manufacture of bronze coins of different denominations, and that up to the present China depends upon foreign supply. It has therefore been decided to appoint a special high commissioner who is to reside in Yunnan, the great copper producing province, and who will also have jurisdiction over the mines of Kiangsi, Kuangsi, Hunan and Hupeh. This step is considered as a preliminary measure to the opening up of the vast mineral wealth of these provinces.

### PENANG HARBOR

A report has been laid before the Legislative Council on Penang Harbor Improvements. It is a report from Messrs. Coode, Sons & Matthews. The recommendations are the extension of Swettenham Pier, 345 feet to the northward, and 255 feet to the southward (giving thereby 1,200 feet in all); widening Weld Quay for a length of 860 feet; widening the inner end of the railway Pier; and forming a widened road in front of the Government Offices, at a total cost of £119,000. Full advantage cannot be taken of the northern extension until the reclamation and cargo godowns are completed. Pontoon landing stages are provided at either end of the extensions, and an additional road to the northern port of the Pier.

The report mentions Mr. Huttenbach's comprehensive scheme for Harbor Improvements, an island pier 1250 feet in length and 210 feet wide, with a viaduct of 1080 feet from Church-st. Ghaut. This was the scheme proposed by Sir John Coode as likely to cost £333,000 in 1891, but the cost now would be decidedly more.

## HONGKONG SUGAR IMPORTS

During 1906, 483,119 tons of sugar were imported into Hongkong. Leaving out the odd hundred-weights, quarters and pounds the sugar comprised in this amount came from countries as follows:—

Austria, 120; Belgium, 426; China, 17,262; Cochin-China, 3,214; Germany, 40,567; Java, 314,673; Japan, 223; London, 334; Mauritius, 24,832; Philippine Islands, 75,986; Straits Settlements, 5,322; New Territories, 154.

## FORMOSAN SUGAR

Consul Julean H. Arnold writes from Tamsui that the production of sugar in Formosa is increasing year after year.

The season for 1906 showed a production of 159,000,000 pounds of brown sugar and a total of 178,500,000 pounds of all grades. This is 50 per cent greater than the production of 1905, while in eight years the production of sugar in Formosa has shown a growth of 90 per cent. Formosa sugar is admitted to Japan free of duty, although an export duty is imposed upon this sugar when exported from Formosa to foreign countries. The 1906 exports from Formosa to Japan exceeded those of 1905 by over \$1,160,000 gold, being equivalent to about 15 per cent of Japan's total consumption. As Japan proper produces no sugar, it is plainly evident that the recent increase in import duties is intended to assist the Formosa industry.

A Sugar Bureau has been created under the charge of Doctor Nitobe, a well-known economist, who has been making a special study to improve and extend sugar-cane culture in Formosa. Shoots for planting have been distributed free of charge to growers. That the growers have taken to the introduction of improved canes is attested to by the fact that in 1903 there were 2,520,000 shoots distributed among them, which increased in 1906 to 15,410,000 shoots, so completely exhausting the supply of the Bureau that purchases had to be made from private nurseries.

Improved fertilizers have been introduced. Among the new fertilizers in use are goose bone dust, Australian bone dust, and Manchurian bean cake. The importations of bean cake in 1903 were 154,835 pounds and during 1905, 477,756 pounds. Peanut-oil refuse was also imported for fertilizing and used to the extent of 149,040 pounds in 1904, but has not been popular because of its higher cost. It is expected that the use of artificial fertilizers will continue to increase as the development of the sugarcane industry advances.

## BONUSES AND SUBVENTIONS.

the manufacture of sugar, the Sugar Bureau grants bonuses and subventions to growers and manufacturers. In the southern part of the island there is considerable land belonging to the Government which is adapted to the cultivation of sugar. In order to bring this land under cultivation, the Sugar Bureau is

empowered to grant to prospective growers the following bonuses: For plants, a sum not to exceed \$1.80 gold for each one-tenth ko (1 ko=2.43 acres); for fertilizers, a sum not to exceed \$2.50 gold for each one-tenth ko; for cultivation expenses, a sum not to exceed \$1 gold for each one-tenth ko. After ten years of successful cultivation the grower is entitled to a title deed conveying to him the land cultivated by him. For irrigation and drainage works, before any such may be undertaken, application must be made to the Government, upon the granting of which the Government empowers the Sugar Bureau to defray an amount not greater than 5 per cent of the total cost of the undertaking. Up to 1904 the Sugar Bureau was empowered to dig artesian wells and undertake drainage systems, and it spent \$7,117 gold in so doing. The total area under cultivation now as compared with the area under cultivation in 1902 is about double, the area at present cultivated being estimated as 88,000 acres.

### METHODS OF MANUFACTURE.

In 1900, the agricultural section of the Formosan government, with the aim of introducing modern methods of manufacture of sugar in the island, installed two American crushing mills. It was soon shown to the Chinese producers that they might secure 20 per cent more juice by the use of these rolls instead of the antiquated Chinese stone crushers. After the creation of the Sugar Bureau, a number of these rolls were introduced to displace the stones. The efficiency of modern machine methods over primitive native methods has been amply demonstrated. For several years the Sugar Bureau was empowered to grant subventions to companies erecting sugar factories, basing these grants on the amount of capital invested. Since 1904 bonuses have been granted upon a basis of 20 per cent of the purchase price of the machinery. Since the establishment of the Bureau \$380,348 gold has been distributed in bonuses to factories.

When a new company wishes to engage in the manufacture of the crude sugar, it must file an application with the Sugar Bureau, through the prefect in the district in which it desires to operate, stating in this petition full particulars as to its working capital, proposed capacity, etc. In case the Sugar Bureau grants the application, it designates certain areas from which this mill may secure its cane. No company is permitted to purchase cane in any other than the district assigned to it unless by special grant from the Sugar Bureau.

The growers, in turn, are obliged to sell their cane to the mill operating in their respective districts, unless granted special permission from the bureau to do otherwise. Thus, competition in the buying and selling of the sugar cane is barred. The price paid for the cane is determined by the company making the purchase. In case the growers are dissatisfied with the price offered they may lay the matter before the district prefect, whose duty it is to effect an arbitration between the company and the growers.

It is the duty of the prefect of each district to keep in touch with the conditions obtaining in their respective prefectures as regards any tendencies on the part of the mills to take undue advantage of the growers, and report such to the chief of the Sugar Bureau. The mills are obliged to send to the Sugar Bureau regular reports setting forth complete statements of their operations, prices paid for materials, sales of sugars, prices realized, etc.

## OFFICIAL REGULATION.

In this manner the Sugar Bureau regulates the industry, and is able to render to it such assistance as it finds practical. A large number of these mills control the land upon which much of their cane is raised, renting it to growers and advancing to these money and materials sufficient to carry on the growing of the cane at a small profit to them. In other cases the manufacturers arrange at the beginning of each season with the growers, fixing a certain price to pe paid for the cane, and advancing money against the crop upon the fixed price basis. Most of the mills have agents in Japan who contract

to take their products for the Japanese refineries Practically all of the refining is done in Japan.

The prospects for the erection of a number of new mills of large crushing capacity are quite bright. In fact, several large companies have already organized and are preparing for the erection of their plants as soon as they are able to secure the necessary machinery and equipment. One crushing company has a capital of\$2,500,000 gold, another has increased its capital from one-half million dollars to five times that sum; another half million dollar one is organizing, and there are many smaller concerns making up an aggregate of \$10,000,000 capital either invested or about to be.

## FAR EASTERN TRADE NOTES

China is now shipping goods to the province of Tibet via the sea route, through Calcutta, says the *Indian Trade Journal*. The old overland route via Batang to Lhasa is in a disturbed condition.

Freight rates from Ceylon to the United States are: On rubber, \$12 a ton; tea, \$8, and all other articles, \$7.85.

It has cost the Queensland Government and citizens \$6,250,000 to erect and maintain rabbit proof wire fences to control the rabbit pest. Although very large, it is considered a wise outlay.

The Queensland State Government tobacco expert, who is an American, after successful sample crops, has decided to promote the cultivation of leaf tobacco.

Queensland's vegetable and fruit industries have assumed large proportions. The product is now \$5,000,000 a year, but large importations continue, such as potatoes, \$488,000; apples, \$250,000, and onions, \$163,000.

Burma's rice fields embrace nearly 10 per cent of the total area under rice in British India. The area amounts to 6,966,215 acres, which is an increase of 252,833 acres over the previous year. The floods of September and October destroyed 181,556 acres and the number left fallow was 543,096 acres.

The enormous increase in the export of goat skins, cow and buffalo hides from India is causing a great deal of comment by merchants interested in the leather trade of India, says Consul-General Michael of Calcutta. The United States takes nearly all of India's exported goat skins.

Japan's six sardine factories are to be increased to thirty during 1907.

Japan's exports of porcelain ware to the United States are increasing rapidly. They were about \$2,800,000 worth in 1906, against \$1,900,000 worth in 1905 and three and one half times as much as in 1902.

Exports of tea from India in 1906 amounted to 214,000,000 pounds, and may reach 225,000,000 pounds in 1907. The total was 181,000,000 pounds in 1903, says the *Indian Trade Journal*.

New Zealand's revenue for the current fiscal year will reach \$41,500,000, yielding a surplus of \$3,500,000.

The Japanese consul at St. Petersburg is actively moving to establish a Russo-Japan Trading company, and also a Russo-Japan Bank. The company is to import Japanese products into Russia and to export Russian products into Japan. Museums of samples are to be established in St. Petersburg and three other large Russian cities and also in the Siberian trade centres.

finances rank with the best in the world. When Japan made her first appearance in London as a borrower she had to pay the Oriental Bank twelve per cent interest on a loan of \$5,000,000. In many features of material progress Japan has outstripped her teachers. The old Japan is dead, but its spirit of patriot ism and chivalry survive."

One thousand Japanese laborers have migrated to Mexico, and 2,000 will follow shortly. They are chiefly employed in railroad construction.

The Japan-Siam ship service will speedily increase the \$5,500,000 annual trade which now exists (equally divided) between the two

Japan's trade with China has increased by sixty per cent in two years.

## AUSTRALIA'S MINERAL WEALTH

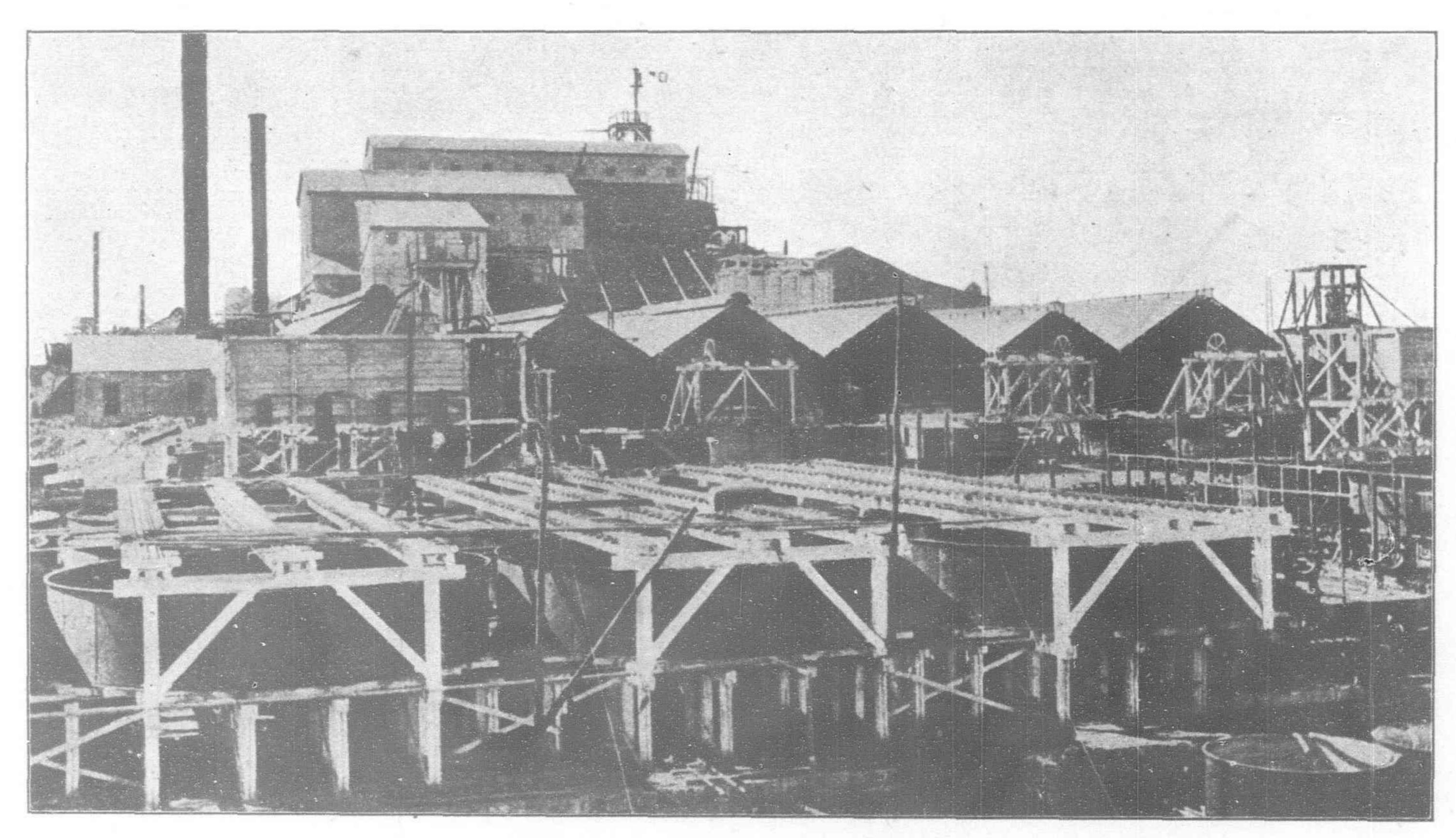
(Continued from page 339.)

north, are both producing centres, and at each place government enterprise has erected a state battery for crushing the stone won by the small leaseholders and prospectors. West of the line at a point nearly opposite Menzies, the Davyhurst district has now become fully established.

From the northern railway system, which runs from Geraldton inland to Nannine, there

burton River, is the Bangemall centre, which is at present idle; the distance from the coast and difficulty of obtaining supplies being, for the value of the reefs, prohibitive. South of Yalgoo, mining operations are being carried on at the Baron Rotchschild mine; but, speaking generally, the country between thortherne n and the eastern goldfields railway systems has not yet seriously attracted the attention of capitalists, though adventurous prospectors have located gold-bearing reefs at many points therein.

lands by the ranges which overlook the West Coast, there is yet another mineral belt, relatively narrow, but of great length. It commences in the Cape Leeuwin Peninsula, and runs right up to the Northwest Cape. Tin, tantalite, copper, lead, and graphite, occur in the lower rocks of this belt, and coal in the series of younger rocks resting on them. The earliest mining in the State was done at the copper and lead mines in this belt near Northampton, which now has railway connection with Geraldton. Later, the discovery of alluvial



MODERN GOLD MINING IN WESTERN AUSTRALIA

The Australia Associated Mine, Kalgoorlie. Cyanide Vats in Foreground.

is a similar succession of mining centres lying outside present railway communication. The railway first strikes the gold-mining belt at Yalgoo, 139 miles from the coast. Thence onward it serves the rich region of which Lake Austin is the central part. The Mount Magnet district to the south of the lake is an important one, but it has been completely dwarfed by the wonderful Great Fingall mine at Day Dawn, near Cue, on the north side. On either side of the railway extension to Nannine new districts have become established, and are yearly growing in importance and outputs. West is the Meekatharra field, and eastward is the Black Range. Beyond the latter is the new field of Barrambie, discovered while the rabbit-proof lence was being erected. East of Barrambie an is the far-out centre of Lake Way, of Wilfrom which point the monthly gold escort out for Perth, gathering on its way down gold outputs of the more southern fields. orth from Nannine and 70 miles distant, is one-time famous Peak Hill centre, now imporarily under a cloud owing to financial ficulties, in which the principal company erating there has become involved. From Hill there is a break in gold-mining until watershed of the rivers draining to the T'-West Coast is reached, and then begins rich belt of the Pilbarra goldfields. Westrd of the route, and at the head of the Ash-

## THE MINERAL BELTS.

While the above brief survey gives a concise idea of the present developmental stage of the different goldfields, it is well to remind the reader that it has not even sketched out the mineral-bearing portions of Western Australia taken as a whole. The goldfields are on a belt of upland which has an altitude of from 1000 to 1500 feet above sea level, and is fully 200 miles broad. This belt runs, practically unbroken, from the South Coast, east of Albany, to the tidal ports of the Nor'-West Coasta distance of more than 1000 miles. Eastward of this belt—but 400 miles nearer the equator, and forming the northern section of the Stateis the Kimberley mining region. The goldbearing rocks there are near the boundary line separating this State from the Northern Territory of South Australia. Mineral-bearing rocks extend all along the north watershed of the Fitzroy River, and run northward along the coast inland from Derby. In this latter section the silver-lead and copper deposits near Derby have lately attracted much public attention. Between the Fitzroy River basin and the North Coast is an immense area of rocks containing fossils of the carboniferous age, and though no coal beds have as yet been located in the series, there is little doubt that, when closely examined by geologists, such will be found. Separated from the goldfields high-

tin at Greenbushes added largely to the wealth of the State, and, later still, the discovery of beds of coal in the sandstones of Collie-some 40 miles nearer Perth than Greenbushes—established yet another branch of mineral industry. The southern railway system connects both of these mining centres with the capital, and with the ports of Vasse and Bunbury. The long stretch of this belt, which lies between Perth and Geraldton, is traversed nearly throughout by the Midland Railway Company's private line, and the soil is deep and sandy. Towards the northern end, and at Minginew, coal-bearing rocks of true carboniferous age are met with, but a payable seam has not yet been located. This series of carboniferous rocks is of great extent northward, as fossils from it have been obtained from near Bangemall (120 miles inland from Sharks Bay), and artesian waters have been struck in it by a bore 2000 feet deep at Carnarvon, on the shore of the bay itself.

## THE ECONOMIC POSITION.

Turning to the economics of Western Australian mining, the State holds a world's record. The laws of the land do not permit of the employment of any colored labor on the mines, and the wages ruling (fixed by Arbitration Act awards) are from £3 to £4 per week, according to situation and local circum-

stances. Firewood for the supply of the steam plants and the treatment works at the largest centres is brought distances varying from 20 to 75 miles. Water, as previously mentioned, is brought from the coast to the large centre of Kargoorlie and the other places en route by Government pumping installations. At many other centres local government water supply systems have been established, but in the majority of the smaller centres the dependence for water is still on the salt basins in the neighborhood of the mines or from the workings of the mines themselves. For domestic purposes in the latter case the water has to be condensed, and each employee is supplied with a daily ration of two gallons from the company's condensing plant, free of charge. The climate is too dry for vegetables and fruit to be advantageously grown, and most of the necessaries of life (and practically all mining supplies) have to be brought from the coast. Much of the gold ore obtained from the mines, now that they are attaining considerable depths, is complicated with telluride and sulphur, and requires special treatment, either by roasting at the mine, or by concentrating the sulphide

made on it are even greater than of old—as testified by the dividends paid—is proof positive that the lodes are carrying their riches downward. The deepest mine in the State is the Great Boulder, now down 1950 feet. At the 19th level there is now a run of ore from 6 feet to 40 feet wide, showing for a length of 700 feet-viz., from opposite Edwards' shaft, to a point 170 feet north of the main shaft. The average value of this run of ore is rather more than 15 dwts. per ton; in places it ranges up to several ounces. There are some twelve or fourteen other mines in the State well below the 1000-feet level, and, in brief summary, in may be said that no mine in the State working a true lode deposit has yet bottomed its wealth.

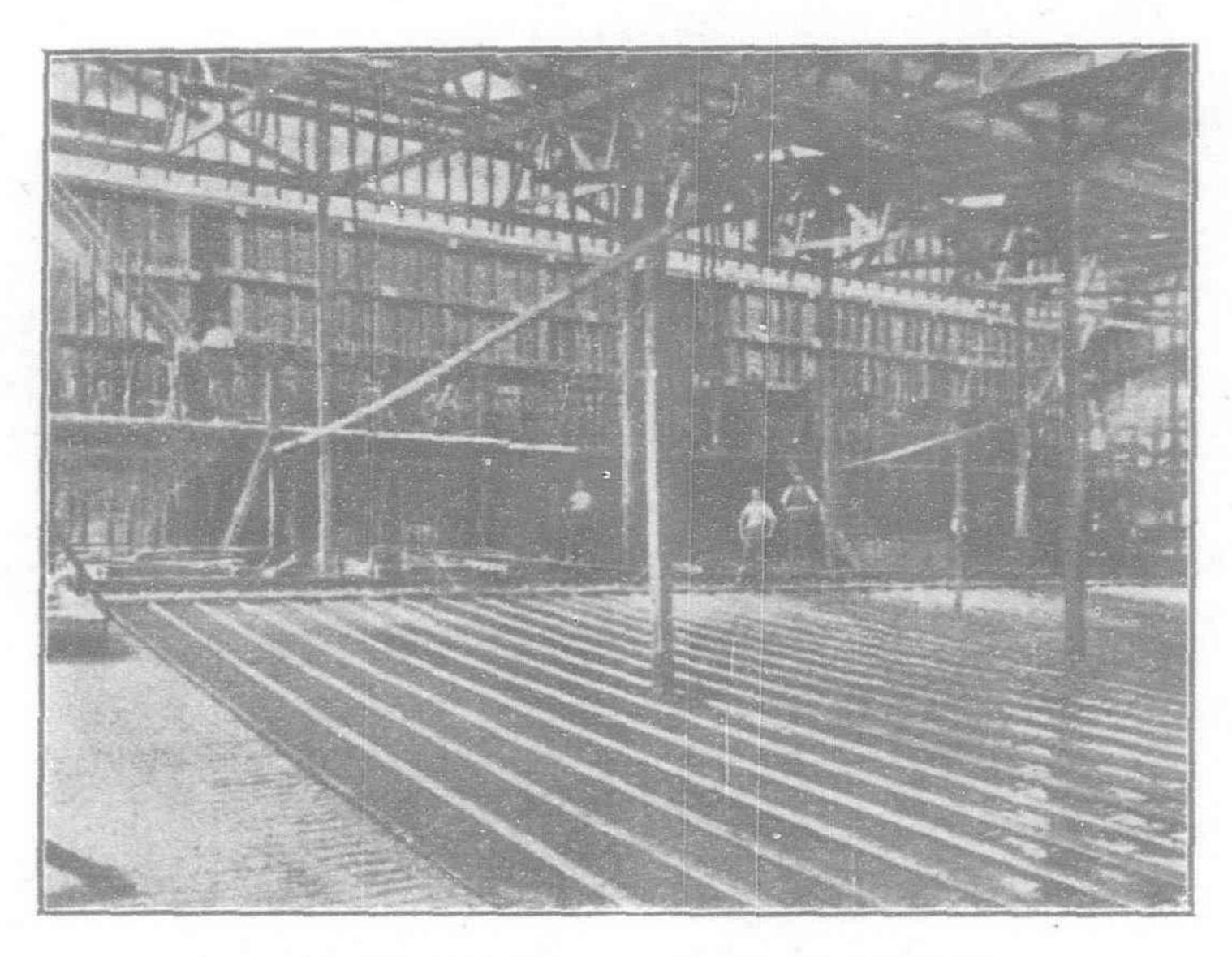
The method of treating the complex ores of Kalgoorlie is crushing and roasting, followed by fine grinding with mercury, then stirring for a number of hours in cyanide solution vats, and filter-pressing. The compressed filter cakes are returned down the mines for stope-filling, and the gold is extracted from the solution by the ordinary method of precipitation by zinc shavings. Some of the Government batteries (of which there are 30 in all) are equipped with

Moolyella, Cooglegong, and Wodgina—are in the Pilbarra region; the fourth, and oldest, is at Greenbushes.

Tantalite, an ore of the new metal tantalum, occurs with the tin ores in this State to an extent unequalled in any other part of the world. The market is, however, a very limited one as yet, but must hold a big future in store for the deposits in Western Australia.

Rare Minerals and Gems. A region so extensive as this State must necessarily have a due proportion of all the minerals which go to help forward man's civilization. Many of the so-called "rare" minerals are already known to occur, but the incentive to their exploitation is as yet wanting. Gems, too, such as diamonds, are on record, but the finds have no commercial significance at present.

Coal. It is unfortunate for the State that its only developed coalfield does not produce an article of export quality. Geologists are divided in opinion as to whether a superior coal is likely to be found in the Collie basin to that now worked there, but meanwhile the State coal has done the country much valuable service.



UP-TO-DATE KALGOORLIE, WESTERN AUSTRALIA

The 100 Head of Stampers at the Ivanhoe Mine.

portions and despatching them to smelters or other treatment works. Yet, despite all these conditions, the 1199 gold-producing properties in this State turned out last year 1,955,316 fine ozs. of gold, valued at £8,305,604. The average number of tons of ore raised per man employed underground was 291 tons, yielding an average of gold equal to 200 ozs. per man. To the 54 large mining companies operating gold mines here—companies almost exclusively domiciled beyond the seas—the sum of £2,167,-639 was distributed as dividends. Their mines produced 1,497,205 ozs. of the total gold yield of the State, and this was obtained from 1,518,-322 tons of ore crushed and treated. So thoroughly has labor been organized, and its efforts so well supplemented by the introduction of high-class machinery, that it has become possible now for many mines—as proved by the dividend list-to carry on remuneratively with ore worth less than thirty shillings per ton. The average value per ton treated throughout the State last year was £2 18s. 6d.—a figure which, when compared with the higher rates of earlier years, has lent some support to the interested statements circulated of late that the mines grow poorer with depth. The statement is only true with a very material qualification. The tonnage treated shows conclusively that a very different system of mining obtains now than formerly, Every ounce of stone containing gold is now sent to the mill, instead of being discarded in favor of the rich stone only. This naturally gives a poorer showing per ton; but the fact that the profits

the cyanide adjunct, but where it has not yet been installed, the Government buys the tailings from its customers, at a rate determined by the assay values.

## MINERALS OTHER THAN GOLD.

The economic conditions of gold-mining apply equally to the other branches of the mineral industry of the State, modified by the fact that, as a rule, the deposits are more or less contiguous to the coast.

Copper is mined at Ravensthorpe, and the mines there are likely to be worked on an extensive scale in the near future. The belt is twelve miles in length. Two years ago the Government, in pursuance of a fostering policy, erected a smelter there. The results were so satisfactory that an English syndicate acquired the mines, and after further developing them for six months, have formed a powerful public company to work them. Including the first cost of the properties, they have now laid out some £60,000 on the field and have also bought, outright, the smelting plant, for which the Government have now no further use.

Lead. The lead mines at Northampton are mostly the property of the Fremantle Smelter Co. Limited, and it was recently announced that measures were being arranged to reopen them consequent on the outlook for the market in lead and zinc.

Tin has now become one of the State's chief products. Much ore is at present exported for treatment, but the Fremantle Smelting Works are now equipped for treating it locally. Of the four producing centres, three—viz.,

MINING LAWS AND STATE POLICY.

The mining laws of the State are liberally conceived and administered. The broad, underlying principle is that all lands leased for mineral purposes shall be legitimately and actively worked. Full provision is made for relief from working conditions when satisfactory cause is shown to the Minister for Mines that such relief is necessary. New legislation is now under discussion in Parliament to give still more easement for conditions which the light of past experience has shown to be expedient. The State helps liberally any mining venture which, in the Minister's opinion, stands only in need of a limited financial assistance to prove some particular point in its mine, or ore value.

The State batteries dotted over the different fields are collectively responsible for an addition of over 7000 tons of ore to the monthly crushings. By their aid the prospector with only a few tons to crush is as well catered for as those mines which send larger parcels to plants for treatment.

## NEW SOUTH WALES

The evidences on all hands of the prosperity and material progress in connection with the great mining industry constitute one of the 'brightest spots in the national outlook. The output of metals and minerals represents about one-sixth of the annual primary and secondary production of the State. In plain official figures, the value of the metals and minerals produced in New South Wales in 1905 was

£7,085,893, being an increase of £694,129 over the production for 1904, and considerably eclipsing all previous records. That the returns for 1906 will show a further substantial advance is already beyond all doubt. The exports of silver, lead, copper, tin, and coal alone for the first half of the year represent in value an increase of 15 per cent.

#### SILVER.

The wonderful group of Broken Hill mines, which have in the last 20 years turned out some £45,000,000 worth of minerals, and paid £13,500,000 in dividends, have furnished the most interesting and solid evidences of progress. The mines are developing well at depth-the big ore bodies in the case of the Proprietary mine being proved down to 1,200 feet-extractions are being improved, costs reduced, and, above all, the zinc contents of the current ore supplies and the vast accumulations of tailings are being turned to profitable account, all of which goes to assure the stability of the field. Profits will be largely augmented by the treatment of the zinciferous residues, preparations for which on a big scale have been entered upon, notably by the Zinc Corporation Limited, which has bought approximately 2,000,000 tons

#### A GOLD INCREASE.

The gold yield for 1905 was £1,165,013, as compared with £1,146,109 for the previous year, and £2,660,946 for the record year—viz., 1852. The output for this year will show a substantial increase over that of 1905. No new fields of importance have been opened up, but there has been more general activity. The gold-dredging industry, incepted some eight years ago, and which last year yielded £136,090, is assuming steadily increasing importance.

#### OPALS.

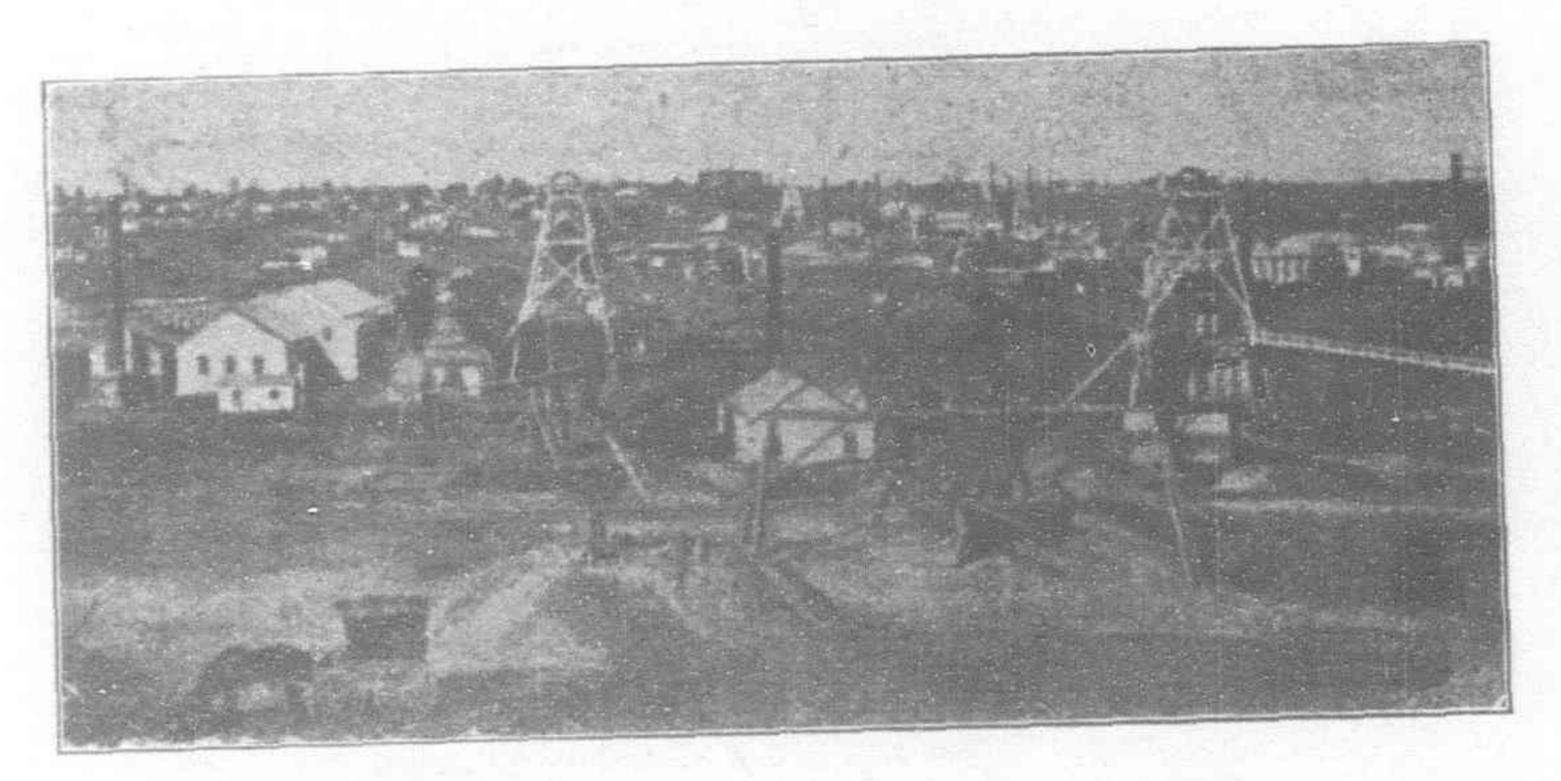
The opal is the most characteristic of Australian gems, and is obtained abundantly from the famous White Cliffs district, in northern New South Wales. Over 1,000 men are employed in the industry, and the area covered by their operations is about twelve miles by two miles wide. The output for 1904 was worth about £57,000.

#### TIN.

The development of tin dredging has latterly been a conspicuous feature, and the success which has attended this method of working "old" and otherwise unpayable ground has opened up a new and very important industry.

There is every indication that the development of the mineral resources has entered upon an era of active progress. The proposal is to extend the North-western railway from Richmond to Choncurry, which will give the vast copper deposits of that field a seaport at Townsville; and to authorize the Chillagoe Company to connect the Etheridge with their railway. This will make the growing town of Cairns the seaport of the Etheridge, and will pave the way for development, the magnitude of which can hardly be justly estimated at this stage. Queensland ranks third in the Australasian States as a gold producer, the relative positions being -West Australia, Victoria, Queensland. Up to the end of 1905 the total value of the gold won reached the splendid total of £62,022,130.

In mineral production the highest figures hitherto recorded were reached. Thus, the value of the total output for the State was £3,726,275, and that was due to the increased production of the industrial metals. Copper and tin contributed largely to that increase, and the prospects of the markets for both, and the practically inexhaustible deposits, justify the anticipation that they will bulk still more largely in the returns of coming years.



THE FAMOUS BENDIGO GOLDFIELD, VICTORIA

in the dump and contracted for a further 4,500,000 to 5,000,000, spread over nine years. The ore reserves and tailings on the field are estimated at £80,000,000 to £90,000,000 gross, and the remodelling of the mills to double, in some instances, the quantities of crude ore treated is in progress at nearly all the mines. Altogether, it looks as if Broken Hill had fairly entered upon a new cycle of prosperity.

## COAL.

The coal industry of New South Wales is too well known to require more than a short notice. Briefly put, this State is par excellence the "coal" State of the Commonwealth, which may be gathered from the fact that while the total coal product of the States in 1905 was £2,337,504, New South Wales accounted for £2,003,461 of this amount. Thousands of miners are employed in the famous Newcastle district and further south. The total coal product of the Commonwealth from the inception of the industry has been £53,919,213, of which New South Wales has contributed £48,019,516.

## COPPER,

A great impetus has been given to copper mining by the high prices which have ruled for the red metal, and the value of the output for 1905-viz., £527,403-is likely to be increased by 50 per cent at least this year. The most notable recent event has been the sale for £800,000 cash of the Great Cobar Copper Syndicate's mines and allied assets to the Great Cobar Limited, an English corporation, whose avowed intention is to treble the mine's present output of 4,000 tons of copper per annum. It is easy to grasp the importance of this to the State. Other copper properties in the district -notably, the Queen Bee-promise well, and the Lloyd mine at Burraga, which yields about 1,800 tons of copper yearly, will also probably become a bigger producer.

No less than 26 dredging plants are now operating successfully in the Tingha and neighboring districts, and numerous others are in course of construction or projected.

## SHALE.

In connection with the kerosene shale deposits, the Commonwealth Oil Corporation Limited, floated in London with a capital of £800,000, is now developing extensive properties in the Capertee and Wolgan Valleys, which it is anticipated will result in a large measure of employment, not only in mining, but also in manufacture of the innumerable products derivable from the shale.

## QUEENSLAND

The geological maps prepared by the Queensland Geological Survey Department will suffice to show the great extent of mineral country, the variety of the minerals found, and the immense amount of work that remains to be done before mining takes its full place in the industries of the State. The proclaimed goldfields cover an area of 22,910,444 acres, and the proclaimed mineral fields 28,100,993, so that if the whole of the half-million odd people were to devote themselves to mining, there would still be room for plenty more, while the rich agricultural and pastoral lands would call for their millions. The position is that of a few people wrestling with a territory, which needs millions of arms and millions of pounds to develop it. When it is remembered that the minerals found in Queensland comprise anthracite, agates, antimony, asbestos, bismuth, coal, cobalt, copper, diamonds, gold, iron, lead, limestone, monazite, mercury, molybdenite, opals, rubies, silver, sapphires, tin, turquoise, topaz, wolfram, zinc, zircons, graphite, the significance of that statement, and the importance of the State from a mining point of view, need no further demonstration.

The actual return upon invested capital as represented by dividends declared last year amounted to £685,594. As a place for the working miner, Queensland may be said to occupy a very attractive position to-day. Sensational alluvial finds, such as happened in the earlier years of gold mining, and more recently in the Dee River area in Central Queensland, are rare, but over 1,200 European and over 500 Chinese diggers made a good living at alluvial mining, while over 8,000 were employed in quartz mining, and 6,946 were engaged in quest of other minerals. Every gold and mineral field has its band of men, who make a satisfactory living for themselves, working in freedom and independence, while miners employed on the various mines earn from 40s. to 70s., and, in some cases, 8os., a week for an eighthours' day of work.

ments in gold-mining have been less noteworthy than in the industrial metals. This has been due not to diminished activity, but largely to the fact that the older goldfields, which in former years have helped so materially to swell the annual returns, have been marking time to some extent—that is to say, the energies of the mining companies have been largely devoted to development in the deeper levels; and prospecting in outside areas has not resulted in the addition of any as yet productive mines. Altogether, the value of the yield in 1905 was £2,517,295, which was a decrease on the figures of 1904 of £197,639.

Silver.—The greater portion of the 601,712 tons of silver produced last year (value, £69,176) came from the Chillagoe District, in North Queensland. Large bodies of silver-lead and copper ore are being opened up in the Mungana group of mines; and among other silver-lead mines whose ore will go to keep the Chillagoe smelters employed, are the Chillagoe Consol's

Silver-Lead Mines, the Crooked Creek Mine, the Queen! Mine at Orient Camp, the Mt. Emma Silver and Copper Mines, the Montalbion Mine, and the Muldiva Mines.

Tin .-- North Queensland is the great tinproducing portion of the State. Except at Stanthorpe, the southern division has never had much to do with tin mining. The yield for the whole State last year amounted to 3,945 tons, and the value was £297,454. Those figures represented an increase in quantity of 22 tons, and in value of £27,178. Three dredges have been installed for the purpose of exploiting the creek beds and the alluvial flats of the district, and results have amply justified the enterprise. But really more than two-thirds of the total output for the year came from the Walsh and Imaroo Field, which embraces, perhaps, the richest tin area in the State—a region possessing a climate of wonderful mildness, and scenery of very picturesque characteristics.

Copper.—So far back as 1860 the output of copper was one ton, valued at £50. That single ton was, so to speak, the herald of a great day in copper mining, but it is only within the last few years that its accents have become generally audible. By a valiant effort, the production of the State was run up to 6,310 tons in 1869, but in 1898 it fell to 62 tons. Last year it bounded up to 7,220½ tons, of the very solid value of £503,547.

Wolfram, Molybdenite, and Bismuth.-The great proportion of the wolfram produced in Queensland comes from the Herberton and the Hodgkinson districts, where payable wolfram is being mined at Wolfram Camp, fourteen miles north-west from Dimbulah; the Neville mine, Koorboora, Bamford, four miles north from Petford; the Strathmore mine, near Boonmoo, Emuford, Butchers' Gully, six miles from Coolgarra; Mount Carbine, 22 miles northwest from Mount Molloy. Of these, the greatest mine is the Neville, where there is an extensive but irregular lode, originally worked by open cut, but now reached by shafts. Last year the product of this mine was ore valued at £18,800. Wolfram, molybdenite, and bismuth are so frequently found in association with one another that they are mined together; but at Wolfram Camp, the quantity of molybdenite is considerable enough to be mined independently. It is very friable, however, and great care has to be taken in extracting it from the gangue.

Manganese.—The production of manganese proceeds almost exclusively at the Mount Miller mine in the Gladstone district, and last year's output was 1,517 tons.

Iron.—Iron, coal, and limestone are provided in ideal positions for smelting; but the day of the manufacturer is not yet. The ore is here, and some day it will be a source of wealth beside which the gold mines of the State will sink into insignificance. Near Ipswich, and therefore close to Brisbane, in immediate proximity to coal measures and limestone beds, chrome iron is found in vast quantities.

Coal.—The State has really an embarrassment of riches in its wide-spreading coal measures. Take the nearest to Brisbane, the Ipswich coal field; that occupies an area of 12,000 square miles. Then there is the Burrum coal field, which extends from the mouth of the Kolan River to Norsa Head, and has been traced far up the valleys of the Mary and Burnett Rivers. Then, in the central district, a vast field seems to lie beneath the whole of the basin of the Fitzroy Creek. The measures in which pure anthracitic coal of exceptional value for steam purposes exists extend on the north from 21 degrees south latitude, 148 degrees east longitude, to 25 degrees south latitude, 150 degrees east longitude on the south. There is coal at Clermont, coal inland from Townsville, coal on the Palmer, coal at Cooktown, coal at Broadsound, coal under the north-western plains and downs, coal at Tambo, at Bungeworgorai Creek, at Winton, and in the Flinders River.

Monazite.—An interesting feature in connection with mining has been the discovery of monazite in the wolfram deposit of the Walsh and Imaroo mineral fields, a circumstance which has attracted the attention of both English and German mineral dealers. Most of this valuble mineral is found in the Mt. Garnet district, associated with wolfram. Recent assays of clean monazite sohw the mineral to contain

about 3 per cent of thoria.

Gems.—There are many beautiful gems found in Queensland. The best known are, of course, opals and sapphires, of great variety and delicacy of coloring, and a few specimens of diamonds from time to time. The present position appears to be that the demand, or, rather, the prices obtainable are scarcely sufficient to give a great stimulus to this branch of mining. The Queensland opal is of exceedingly fine quality, and of great beauty. The value of last year's output was about £3,000, while that of sapphires, chiefly obtained from Anakie, was set down at £5,255.

#### **VICTORIA**

THE GOLD YIELD. .

Victoria can claim to be one of the richest gold-bearing countries in the world. From the time of the first gold discoveries, in 1851, to 31st December, 1905, the amount of gold won amounted to 68,367,403 ozs. gross, valued at £273,236,500. The yield of gold for the year 1905 was 810,050 ozs. gross, or 747,166 ozs. fine, worth £3,173,744. There was a decrease of 10,967 ozs. as compared with 1904. Of the several goldfields districts, Bendigo was first with 212,465 ozs. Ballarat comes next with 145,331 ozs. Beechworth was a good third with 133,587 ozs. Castlemaine had 90,205, Maryborough 85,768, Gippsland 73,633, and Ararat and Stawell 23,651 ozs. respectively.

The official report of the Mines Department states that the largest increases in 1905, as compared with 1904, are those of Castlemaine and Beechworth districts, with 13,035 ozs. and 11,002 ozs. respectively, the improvement in each case being almost entirely due to dredge mining. In two other districts—viz., Gippsland and Maryborough—there were also increases—in the former of 6912 ozs., and in the latter of 619 ozs.—over the yields of the previous year. In the three remaining districts there were decreases. Bendigo showed a decline of 30,415 ozs.; Ballarat had 3642 ozs., and Ararat and Stawell 8930 ozs. less.

## DIVIDENDS.

In respect to dividends in 1905, the official report of the Mines Department states that the total amount paid in dividends during the year was £454,431, which, although above the average of recent years, is a decline of £168,966 as compared with that of 1904.

The Bendigo goldfield was first on the list with £228,028, which was distributed by eighteen companies, whose paid-up capital amounts to £522,979. During the year the South New Moon Company returned £70,400 to its shareholders, and the New Moon Company £45,600.

The Beechworth district returned £70,313, of which the alluvial mines at Chiltern and Rutherglen provided £26,250, the Star of the West lode mine at Jamieson £11,875, and the dredging and sluicing companies at Beechworth and Buckland £31,388.

The Ballarat district yielded £66,700, towards which the Jubilee (quartz) at Scarsdale contributed £16,200, the Birthday Tunnel (quartz) at Berringa £9000, the William's Fancy (quartz), also at Berringa, £6000, and the Llanberris No. 1 (quartz), Ballarat, £6600.

The Castlemaine district provided £35,465, or £18,225 more than in 1904. Of this amount, the dredging companies at Castlemaine and Fryerstown paid £11,805; the Spring Gully (quartz) group of companies at Fryerstown, £11,002; the Victorian Cornish Gold Mines Co. Limited (quartz) at Daylesford, £6000; and the Eaglehawk Consolidated Gold Mining Co. (quartz) at Maldon, £6000.

In the Gippsland district £28,504 was paid by the Long Tunnel (quartz), Long Tunnel Extended (quartz), and Coronation (quartz) Companies at Walhalla, the Cassilis Company (quartz) at Omeo, and the Victory (quartz) at Foster. The Long Tunnel Extended distributed £13,440, bringing its aggregate up to £682,080 on a paid-up capital of £53,280.

In the Maryborough district the amount of dividends was £25,219 These were paid by

the Lord Nelson Company (quartz) at St. Arnaud, Main Leads North Company (alluvial) at Maryborough, Newbridge United Co. (alluvial) at Newbridge, and the Great Columbian Co. (quartz) at Inglewood. The Lord Nelson Company paid £9000, bringing its total distribution up to £252,750 on a paid-up capital of £19,350. In the Ararat and Stawell district only one

small dividend was paid.

Some remarkable instances of the perfection to which mining methods and machinery have attained in winning gold from low-grade material are given in the report of the Mines Department. For instance, the Stewart's United Company at Fosterville, in the Bendigo district, obtained 474 ozs. of gold from 7104 tons of quartz, the average per ton being only 11 dwt., equal to about 5s. 4d. per ton. The total value of the gold was £1896, which showed a small profit for the year over expenses. The Vaughan Dredging Company paid dividends, amounting to £800, on the treatment of 401,720 cubic yards of dirt, which yielded 810 ozs., or less than 1 grain of gold per cubic yard, the cost of winning the gold being less than 13d, per cubic yard.

The Birthday Tunnel Co. at Berringa paid £9000 in dividends as the result of treating 28,450 tons for 6889 ozs., or an average of 47

dwts. per ton.

#### DEEP MINES.

Some of the deepest mines in the world are to be found in Victoria, especially on the Bendigo field, where the quartz lodes have been followed down to an immense depth, and found to yield extremely rich stone. The mining inspector for the Bendigo district reported to the Mines Department at the end of 1905 that the New Chum Railway Company's mine was then 4175 feet in depth, and that it was intended to continue sinking until a depth of 4300 feet was reached. The Victoria Reef Quartz Mining Company's mine, also at Bendigo, is 4124 feet in depth, and there are a number of other mines on the field over 3000 feet deep.

## DREDGING.

Great activity continues to be shown in dredge-mining. The total quantity of material treated during 1905 by bucket-dredging, pumpsluicing, and jet-elevating, according to the report of the Mines Department, was 13,450,945 cubic yards, as against 10,192,400 cubic yards in 1904. The gold obtained amounted to 72,953 ozs., as against 55,257 ozs. for the previous year, the average yield of gold per cubic yard treated being 2.6 grains, as against 2.37 grains in 1904. The quantity of stream tin won during 1905 was 94 tons 16 cwt. 1 qr., valued at £8428 7s.6d. The average quantity of material dealt with per week by each dredging plant was 48c cubic yards, and the areas treated during the year aggregated 479.5 acres, the average yield of gold per acre being 152.1 ozs. The weekly yield of gold won by each plant averaged 26 ozs.

Altogether, 82 dredge-mining plants, comprising 26 bucket-dredges, 49 pump hydraulic sluices, 6 jet-elevators, and 2 rotary hydraulic plants, were in operation. The number of men employed in dredge-mining during the year was 2040, an increase of 540 over the number in 1904. The amount expended by the companies in wages, fuel, and maintenance for the year was £217,164, as against £104,000 in 1904. The sum paid in dividends during the year was £43,412. On 31st December, 1905, the number of new plants in course of construction was 38.

## THE CYANIDE PROCESS.

From 1st January to 29th November, 1905, the report of the Mines Department says 626,745 tons of sand and tailings were treated by the cyanide process for a return of 45,221 ozs. 4 dwts. of gold, valued at £159,436. The cyanide process is covered by patent, and in 1900 the Government acquired the patent rights for £20,000, on condition that this money was repaid to the Government by the companies using it, in the shape of a royalty on the gold won. The total amount of gold won by cyanidation since the purchase of the patent rights in 1900 is 246,263 ozs., worth £829,266. The last instalment of the purchase money was repaid during the year, and the royalty now ceases. The sand

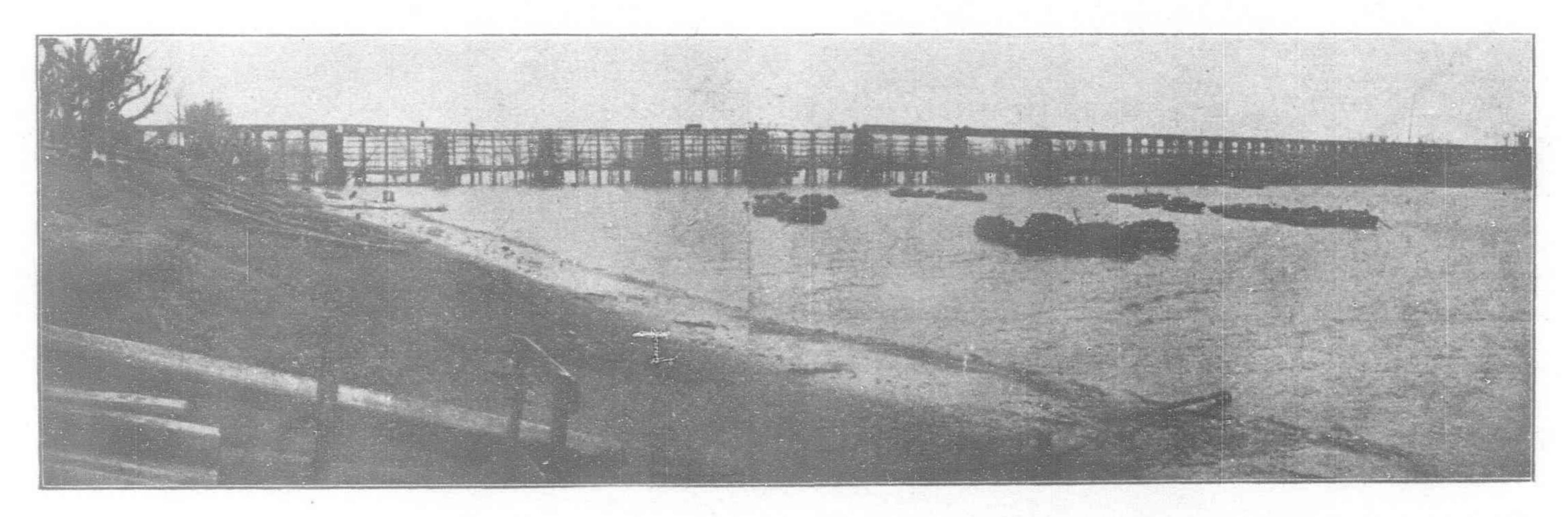
## THE SEOUL-WIJU RAILWAY

The construction of the Seoul-Wiju Railway in Korea which connects Seoul and Wiju, a distance of 310 miles, during the war between Russia and Japan, was a remarkable achievement. It won for the chief engineer, Iwayo Ishikawa, the third order of the Korean Medal from the emperor for his remarkable services. The line was built in less than twelve months and was of the greatest possible value to the Japanese in solving the transportation problems

junction about 30 miles from its starting place, and then continues in a northeasterly direction towards Seoul, near which point it is joined by a branch from the principal port of Korea, Chemulpo. From Seoul a short line under construction branches off to Gensan. The main line continues mostly in a northeasterly direction to Ping Yang, where there is another branch being constructed to Chinampo. From

This explains the construction, particularly of the narrow gauge portion of the line between Wiju and Mukden.

The Southern lines are equipped with 1st, 2nd and 3rd class cars and large, powerful 100-ton Baldwin locomotives. On the northern line there are only 2nd and 3rd class coaches and the engines are of the 50-ton tank class. As a rule they run about 20 miles an hour as their coal and water supply is limited. They then



THE PO-YANG STEEL BRIDGE ACROSS THE DAIDO RIVER AT PING YANG TO ISLAND TO CONNECT WITH THE WOODEN BRIDGE—IT IS COMPRISED OF EIGHT SPANS OF STEEL GIRDERS AND IS THE MOST SUBSTANTIAL STRUCTURE ON THE SEOUL-WIJU RAILWAY

of the war. At the present time the entire line is undergoing reconstruction, and when this is completed it will offer the most modern facilities for transportation through Korea into Manchuria. The line has been continuously in operation since its completion as a temporary road, and at the present time much of the road has been reconstructed and the new roadway is being utilized as the work progresses.

If one refers to a railway map of Korea, he will see that the Seoul-Wiju railway starts from Fusan in the extreme south of the peninsula, is joined by a short line from Massampo at a

and tailings treated by the cyanide process are what were dumped and, in many cases, abandoned as worthless by the alluvial and quartz mining companies.

## COAL MINING.

The production of coal during the year was 155,135 tons, valued at £79,035, or 105 2d. per ton at the mines, which are all located in South Gippsland, around Korumburra, and Outtrim. The total output since the mines began work, twelve or fifteen years ago, to the end of 1905 was 2,514,135 tons, valued at £1,388,269.

## OTHER METALS AND MINERALS.

Besides gold and coal, small quantities of in ore and antimony are produced. The chief sources of production of tin ore are at Beechworth, in the North-east, and Toora, in Gippsland. Antimony is obtained at Costerfield, near Heathcote. Copper ore is found in several localities a few years ago a deposit on the Thompson River, between Moe and Walhalla, in Gippsland, was worked. Deposits of iron ore at Dookie, in the Goulburn Valley, and in Eastern hippsland (at Nowa Nowa), are extensive, but no attempt has been made to exploit them

Ping Yang the line then continues to the frontier town of Wiju on the Liao Yang.

The river has to be crossed by boat and on the other side, in Manchuria, the traveler finds himself on a narrow gauge line that is constructed as far as Mukden, a station of the Chinese Eastern Railway which connects at the Manchuria frontier town with the Trans-Siberian.

Of all these lines the two from Fusan to Seoul and from Chemulpo to Seoul were constructed by American capitalists and engineers before the war. It is, therefore, to the last portion, Seoul to Wiju, constructed during the war, that the writer makes particular reference. It must be borne in mind that every detail in the matter of supplies with the exception of the construction of the road bed had to be imported from Japan or the United States. This section is 310 miles in length and rises from 100 to 500 feet at various points. Three important rivers and several small ones are crossed. The wooden trestle is utilized throughout. As there were no cut stone available, the bridges had to be continued inshore for some distance, a false shore of sand bags in straw baskets being often employed to ensure stability at the jump off. The line is a single one with a siding at each station, together with yards at the more important ones. Although there is an abundant supply of water in the country, it occasionally happens that the sites selected for stations are devoid of actual water supply. Engines at many points have to take a run of a half-mile or so to get to the reservoir. All this is under revision, and the water will be ultimately connected with all the stations.

The standard gauge 4' 8½" having previously been initiated, it was adopted on all the other lines. This was necessitated in order to utilize the rolling stock available. It was equally necessary that in case of accident the enemy should not be able to utilize his rolling stock.



MR. IWAYO ISHIKAWA

Engineer-in-Chief of the Seoul-Wiju
Railroad—Decorated by the Emperor
of Japan with the Third Order of
Korean Medals.

haul the return train back besides being utilized for hauling freight over that section. At present the trains are run in pairs. Thus an early morning train from Seoul to Ping Yang is followed by a second two hours later and two return trains start simultaneously from Ping Yang to Seoul. There are few local trains from various points, but these appear to be well patronized, the Korean taking kindly to railway traveling

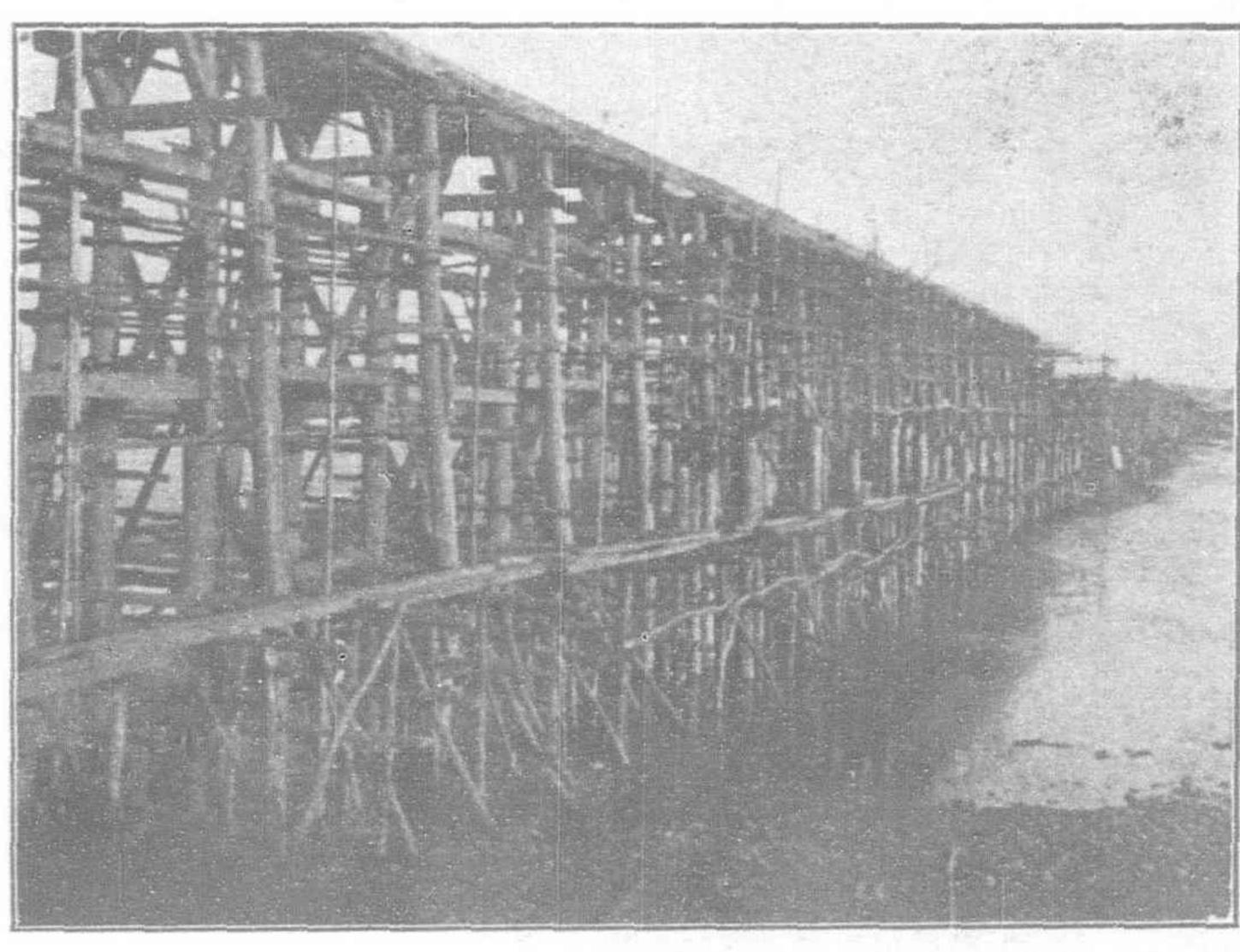
although not with the same eagerness as the Japanese, who in their native land are the most frenzied travelers in existence.

The trains go no farther than Ping Yang, 162 miles, in one day. The journey to Wiju is continued the next day and vice-versa. Each distance takes 10 hours.

rials for the new bridges and there are also some brickyards in operation where an exceedingly serviceable red brick is turned out.

The line follows the ancient road from Seoul and crosses it from time to time. The stations are very simple structures offering no more accommodation than the actual needs of the altitude present danger from washouts. The new line being constructed along the slopes of the hills culverts will probably be provided against this menace. It has only been necessary to tunnel about five or six times and none of these are of any considerable length.

The whole of this railway was surveyed







KOREA, ON THE SEOUL-WIJU RAILWAY WITH A VIEW OF THE ICE FORMATION

As the railway was constructed at lightning speed it follows to a large extent the lay of the country. Where it was constructed through paddy fields, the necessary ballast was secured from shallow cuttings in nearby hills. The ballast was mostly comprised of sandstone and over this a surfacing of 18" of broken stone was imposed. In order to take the greatest advantage of the natural character of the country many curves were necessary and travelers frequently meet with 20 C, although 15, 12 and 10 are not unknown. In the same way the prevailing grades are 1 in 40 with a few 1 in 33. The steepest is from the 82nd milestone to the 97th, and engines are changed for this short stretch making it at over 30 miles an hour.

Now all this is being changed. The line is undergoing reconstruction. The new grades do not exceed in 100 and no curve is less than 40 C. Much has been already completed and the trains are running over the new track. It is expected to complete the work in about two years but considerable difficulty is being experienced at Chemulpo in effecting the landing of the girders of the bridge. Steamers have to anchor in the offing and the unloading from the lighters can only be accomplished at high water on an island connected with the town by a bridge as shown in the illustration. Several fine quarries have been established along the line for the purpose of furnishing the mate-

situation. In all cases they are at some distance from the center of the Korean towns. Probably this is as much to enable the Japanese to construct a new town for themselves as to escape from the dirt and narrowness of the streets that are the characteristics of every native Korean. city. Song To is more than a mile from the depot, Ping Yang about two and a half and Wiju almost four miles. The land in the vicinity of the stations can only be transferred by the natives to the Japanese under the regulations constituting these localities and known as "military zones."

As all the bridges are almost alike the one spanning the river at Ping Yang has been selected for illustration. It is built in two portions traversing between the two a large island. The wooden portion of the bridges has a 12 ft. span, and the steel box girders in the centers are 65 and 70 ft, span. This bridge was constructed during the winter. Much difficulty was experienced with the large masses of ice that collected and broke down the piles of the first scaffolding. The engineer was obliged to utilize some steel railroad material which could be placed at sufficient distance apart to enable the floating fragments to pass. This river and the one at Wiju are not very deep but the Riushin about 30 miles from Seoul is both deep and swift. The present line through the valleys where the adjacent hills are of some

and built within a twelve-month. It is due to one man alone. He is Ishikawa Iwayo. On the road's completion he was decorated with the third order of the Korean Medal. He had under his direction 30 assistant engineers, 80 railway constructors and 3,600 foremen gangers and laborers all experienced in railway construction. All these were Japanese. The Koreans employed numbered about 10,000 daily. Of these 167 persons were killed by accident, disease and otherwise during the years 1903-4-5-6. The total cost of the railway, inclusive of the sum paid to the Korean Government for the expropriation of the native landowners' rights, was 12 million yen (6 million dollars), and seven million yen for rolling stock. A further sum of 22 million yen was allotted for the reconstruction, calculated to spread over 4 years. All the steel girders, road metals and rolling stock are imported from the United States. The temporary road was constructed with 30 ft. rails weighing 60 lbs, and these are now being replaced with 33 ft. rails of 75 lbs. weight.

This undertaking is one of the most stupendous pieces of work yet accomplished by any nation. When one reflects upon the stress put upon the Japanese nation during the time this work was proceeding and the absolute barrenness of the country of any sort of detail for the work being carried on, words are lacking to give it the praise due without becoming fulsome.

## CONSULAR AND TRADE NOTES

The Austro-Hungarian consul at Rio de Janeiro calls attention to the demand that is likely to arise in Brazil for leather purses, in consequence of the substitution of metallic for paper currency.

Consul W. W. Canada, of Veracruz, Mexico, transmits a report on the rules and regulations governing the transit of merchandise on the isthmus of Tehuantepec, which is on file in the Bureau of Manufactures, where they can be inspected by persons interested.

For the protection of growers of sugar cane the Venezuelan Government decreed, as Consul James W. Johnson reports, that alcohol produced in the country and denaturalized for use in lamps, heating apparatus, and alcohol motors, be exempted from taxation for two years beginning with January 1, 1907.

Consul A. A. Winslow, of Valparaiso, reports that the imports into Chile from Germany during the first nine months of 1906 amounted to \$12,197,128, an increase of \$4,471,083 over the corresponding period of 1905. The consul says Germans have the advantage of cheap freights and direct lines of steamships.

Consul-General W. H. Michael, of Calcutta, reports that over 800 natives of British India, who had gone to Trinidad to work temporarily, returned on December 31, 1906, with about \$66,666 in cash. One family brought back \$3,000. Most of these people will, in all probability, invest their savings in land.

The British consul-general at Warsaw reports that while the Polish cotton trade is good the cost of production, on account of labor and other troubles, has become so high that the Polish cotton manufacturers are losing ground in the Far East and in the remoter parts of Siberia, where a good portion of the trade is falling into British hands.

Northeastern India is growing Abasi-Egyptian cotton. A public sale of this staple was held at Karachi on January 5 under government supervision, according to the Indian Trade Journal, and about 125,000 pounds disposed of. The Journal adds that the whole scheme of auctions of cotton grown from Egyptian seed has been successful and the growers greatly benefited.

## SUCCESSFUL OPERATIONS OF THE MINDORO LUMBER AND LOGGING CO.

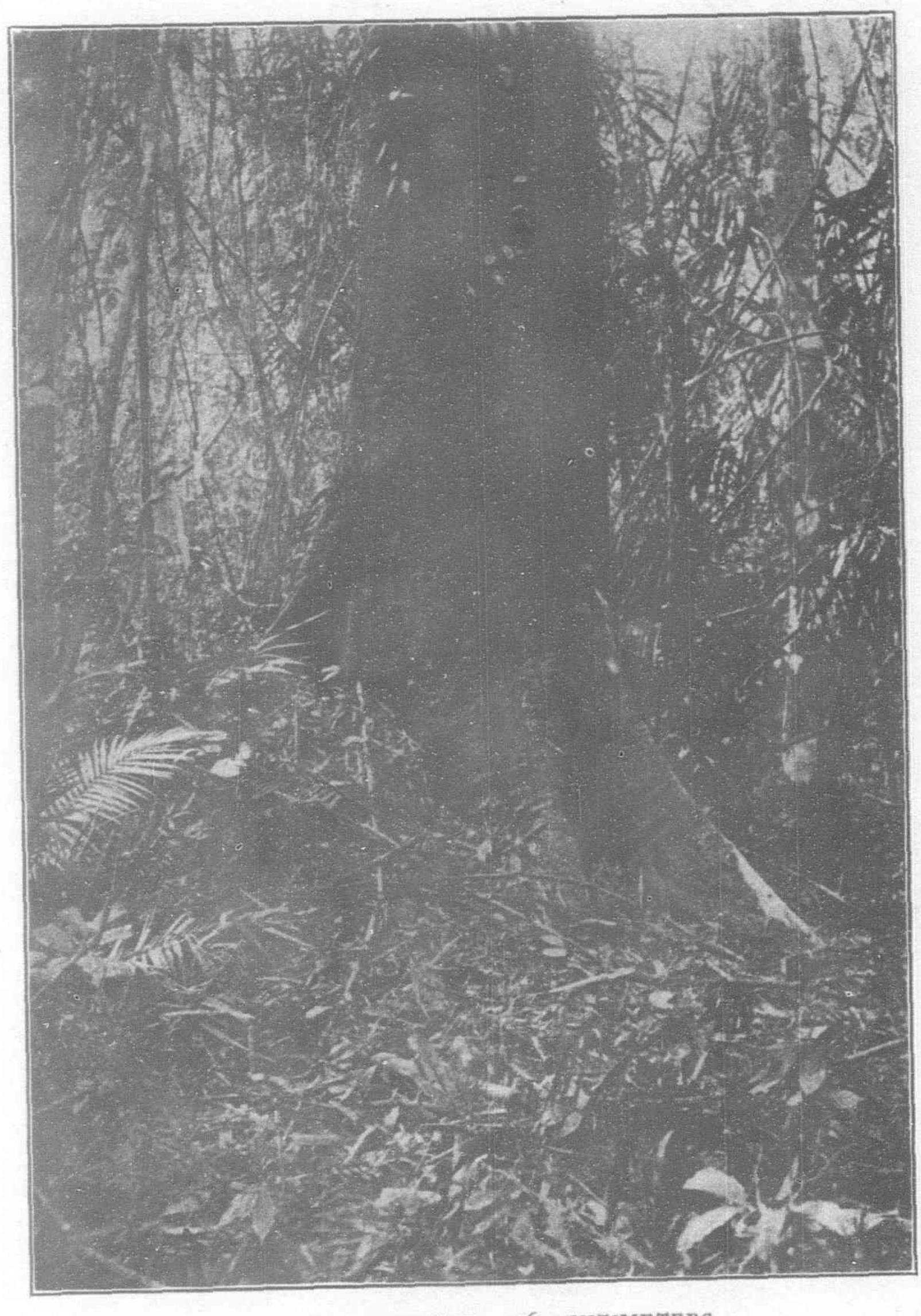
The prospect for the development of the lumbering industry in the Philippines grows brighter as the years pass and many hundreds of thousands of American dollars have already been invested successfully, as the reports of the different companies demonstrate. Among those pioneers that have blazed the trail in the Philippines and are prospering beyond

country is drained by the Bongabon, Dangay and Uasig rivers, all of which may be utilized to float logs to their mouths. The Bongabon is the largest of the three flowing through a grassy flood plain half a mile wide.

Major George P. Ahern, director of forestry, has issued a pamphlet giving a complete review of a preliminary working plan for the public

during the period referred to, with a financial statement showing the net profits:

"The license agreement of the Mindoro Lumber and Logging Company is dated June 3, 1905. Table XXI, computed from data taken from the company's books, shows the amount of timber that has been marketed from that time to July 1, 1906.



APITONG; DIAMETER, 126 CENTIMETERS

expectations, is the Mindoro Lumber and Logging Company of Bongabon, Mindoro, P. I.

This company has secured a concession under the terms of a license agreement for a tract of land covering an area of about 85 square miles upon the east coast of the island described in the terms of the license agreement with boundaries as follows:

"From the Sucol River south to the Uasig River, and 10 miles inland." Upon ascending the Sucol River it was found that the native name is changed to Inuman after a short distance, therefore this river has been taken as the north boundary. A short distance inland the Uasig River divides into two branches, a large one known as the Baroc, and a small, nearly dry stream called the Uasig.

The highest altitude of the tract is about 100 feet sloping gradually to sea level and the

forest tract of the Mindoro Lumber and Logging Co. prepared by Melvin L. Merrit, forester in charge of district No. 4 and H. N. Whitford, Ph. D., forester and chief of the division of forest products. This circular devotes much space to a description of the tract and its natural advantages as a center for profitable lumbering. It also includes a report of the year's work ending June 30, 1906, showing the profit made by employing only the most primitive methods and the remarkable prospect in that region for the company equipped with the most modern machinery. The Bongabon Lumber and Logging Company proposes to keep pace with the times and the most modern equipment will be installed as the company extends its operations. The following excerpt from the circular referred to is a concise statement of the operations, including the transportation and the marketing of the product by this company

Table XXI.—Timber sold by the Mindoro Lumber and Logging Company during the year ended June 30, 1906.

	In the log (rour		
Name.	English cubic feet.	Cubic meters.	
Guijo Narra Lauan Apitong Amuguis Candol-candol Palo Maria Pagsahiñgin Pahutan Pili Malugay Others	5,822.66 2,612.65 1,279.79 651.37 429.48 176.70 189.19 . 44.59 . 52:54 40.20	574.35 244.89 164.88 73.97 36.24 18.45 12,16 5 5 36 1.26 1.49 1.14 9.31	
Total	40,560.56	1,148.50	

Timber sawn on tract by company's sawmill.

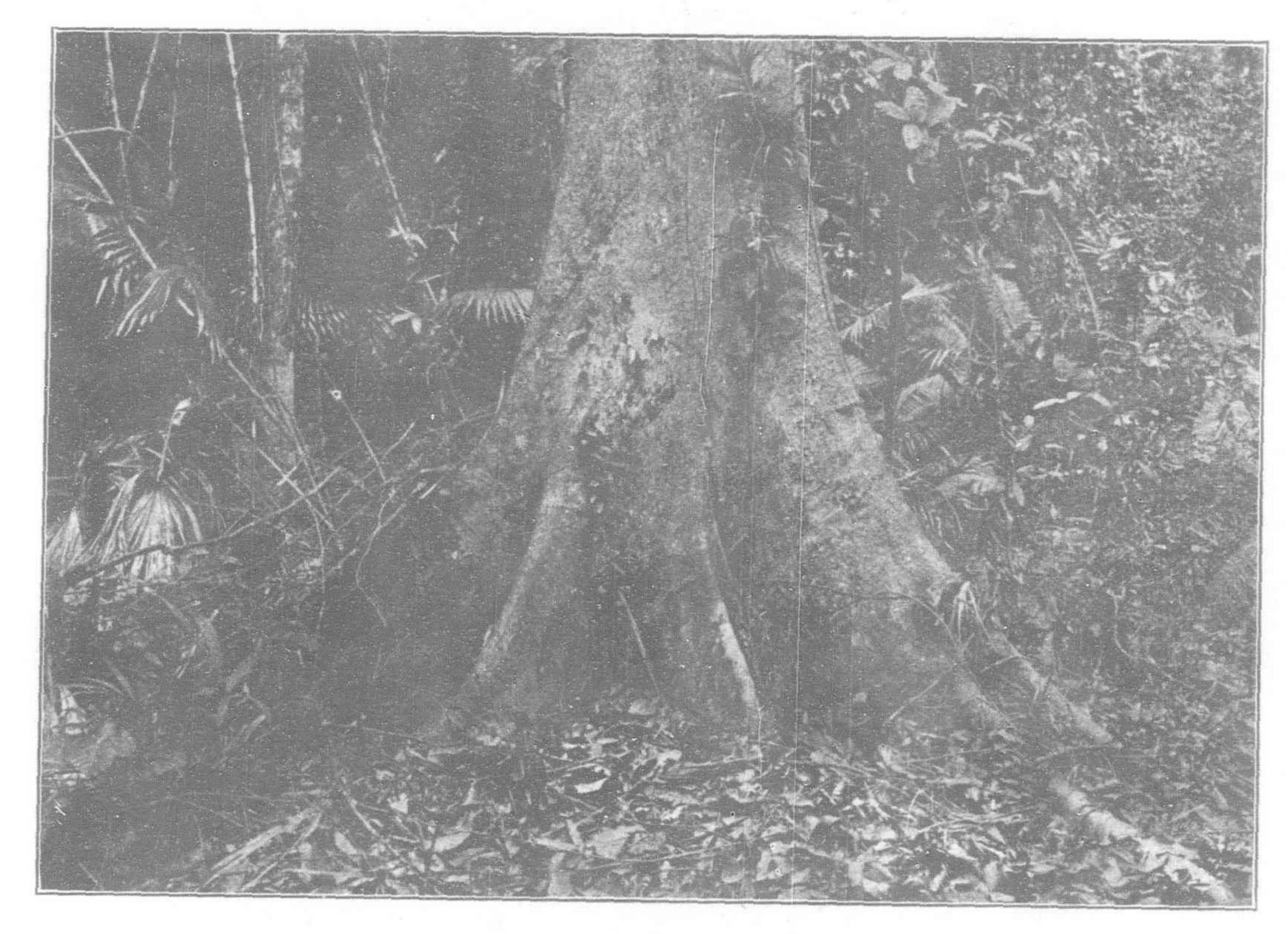
Fee	t B. M.
Lauan	24,219
Amuguis	10,535
Apitong	5,611
Guijo	5,503
Narra	2,112
Total_	47,980

In addition to this, a small amount of timber is still at the mill which, with the amount

long. For this work American axes are used, although occasionally saws are substituted. The logs are then loaded upon rude sleds similar to the logging "dray" of the United States, and dragged by a team of from six to eight carabaos to the mill or to some point along the tramway which leads to the beach. The rough trails over which this hauling was done are made by merely cutting away the underbrush. These roads are passable, except at the lowest places, at almost any season of the year. At the tramway the logs are loaded

equivalent to 7.2 feet B. M., this would be a cost of from \$\mathbb{P}\_{9.75}\$ to \$\mathbb{P}\_{18}\$ per 1,000 board feet. Contracts are sometimes made to cut and deliver logs to the beach when the average distance is one-half mile, at the rate of \$\mathbb{P}\_{2}\$ per average log of 40 or 50 cubic feet, the contractor being supplied with carabaos by the owner. This would mean about \$\mathbb{P}\_{6}\$ per B. M., in addition to the rental of the carabaos. In other cases, the contractor supplies his own carabaos and received from \$\mathbb{P}\_{0.08}\$ to \$\mathbb{P}\_{0.10}\$ per English cubic foot, or about \$\mathbb{P}\_{12}\$ per M feet B. M. for logs delivered on the beach.

The present cost of logging could be greatly reduced by more careful organization and by



HAGACHAC: DIAMETER, 107 CENTIMETERS

that has been used for construction purposes on the tract, is approximately equal to the quantity of sawn timber sold.

Previous to July 3, 1905, a number of individuals or companies have from time to time held this tract, or pertions of it, together with some adjacent forest. In no case did these concessions coincide with the present one, hence it is impossible to state the exact amount removed from it. It is believed, however, that only a small amount of timber had been cut from the forest south of the Bongabon River. North of the Bongabon River a larger number of logs have been taken from the scattered timber lands near the Tidiangan and Sucol Rivers. It is stated by the natives that in former times a great many logs had been sold from the barrio of Paclasan from territory now occupied by Calaanan and grass.

## PRESENT LUMBERING OPERATIONS.

A very primitive method of logging, similar to that employed by native lumbermen, has been used; by the present company. The trees are felled and chopped by Filipino laborers into lengths 3 to 6 meters (10 to 20 feet)

upon small cars drawn by one or two carabaos and hauled one at a time to the beach.

The cost of such operations as this can only be given approximately. Ordinary wages and costs are about as follows:

Manager per month	P150	00
Head foreman	40 00_ 60	00
Choppers do	75- 1	00
Other laborersdodo	1 50- 7	-
Carabao, value each P2=\$1 U. S. currency.	100 00-150	00

Two men can fell and cut into logs from two to four medium-sized trees per day, or from 300 to 500 English cubic feet. A team of six to eight carabaos, with a driver for each animal, will haul from three to six logs per day for an average distance of half a mile. Two carabaos and their drivers will haul about four logs per day on the tram car from the mill to the beach, a distance of 11 miles.

Working upon this rude basis, the cost of cutting and delivering at the beach by the present method will vary from Po.07 to Po.13 per English cubic foot, depending greatly upon the length of haul, management, and kind of timber cut, Counting an English cubic foot

providing cheaper methods of transporting the logs from the forest to the beach, which is by far the largest single item of expense. To do this, it is suggested that iron rails be used upon the tramway, instead of wooden one. This would permit the hauling of several logs instead of one at a time, would avoid breakage of rails and cars, and would greatly reduce the draft, thus permitting more trips per day. It is also suggested that wide-tired, two-wheeled logging carts be tried instead of the logging sled. These have a lighter draft, and, where tried in other parts of the Islands, have given excellent satisfaction. A steam logging and skidding outfit, including two donkey engines and 2 miles of cable, could be used upon the tract and would greatly reduce the cost of logging.

A portable sawmill, having a capacity of about 10,000 feet B. M. per day, has been placed upon the tract. Owing to difficulties incident to the installation of this mill, it has not yet been operated sufficiently to allow any estimate of the cost of running.

Planing Mills Company upon a few Narra logs that were sawn with a band saw showed the following facts: Forty-three logs, containing 41.81 cubic meters (1,476.58 English cubic feet), yielded 15,199 feet B. M of lumber not edged. Allowing for a waste in edging of 20 per cent, this would be a yield of 290.81 feet B. M. per cubic meter, or 8.24 feet B. M. per cubic foot. The above factor of 7.2 feet B. M. per cubic foot therefore is conservative.

In addition to the regular logging operations, the present company has cut a number of table tops from the large flat buttresses of Narra trees. These can be removed with saws and axes and can be secured up to 6 feet in diameter. Usually the buttresses vary from 4 to 12 inches in thickness, and may be hewed to an even thickness of about 3 inches. One of these tops, which measured 5 feet in diameter and 3 inches in thickness, was removed

are floated to the ships, which, on account of the shallow water, are required to anchor nearly one-quarter of a mile from shore. The regular charge for this is \$\mathbb{P}0.50\$ per log, which amounts to about \$\mathbb{P}0.01\$ per English cubic foot, or \$\mathbb{P}1.39\$ per M feet B. M. Weather conditions are an important factor to be considered in connection with transportation. Sometimes storms delay loading, hinder transit, or affect the shipper very seriously in a number of ways.

FINANCIAL RESULTS AND PROSPECTS.

Summarized, the cost, exclusive of taxes or stumpage charges of logging and delivery in Manila, should not exceed the following:

Per English cubic foot.

Cutting and delivering on the beach  Loading upon shipboard  Shipping to Manila  Wage of officials, breakage, etc	.01	to to	.01	
Total	.28	to	.41	



A YOUNG TREE OF LAUAN; DIAMETER, 30 CENTIMETERS

under the direction of the field party at a cost of a little less than \$\mathbb{P}\_{18.00}\$. In this case, the men were hired for this work alone. With a regular organized force, the cost should be reduced about one-half.

## MARKETS AND TRANSPORTATION.

Practically all of the logs and lumber is sent to Manila by means of steamers or sailboats. The cost of shipment from the tract to Manila (distance 200 miles) varies from \$\mathbb{P}0.18\$ to \$\mathbb{P}0.25\$ per English cubic foot, which would be, counting an English cubic foot equal to 7.2 feet B. M., \$\mathbb{P}25\$ to \$\mathbb{P}34.72\$ per M. feet B. M. The cost of transportation is slightly less upon sailing vessels than upon steamers. The logs

The following are the average prices now paid in Manila for logs and for sawn timber:

Name.	Per Englished	foot	Per Spa cubic in the	foot	Per feet M. si timb	B. awn	Stumpagacharges per M. United	States currency.
Yellow Nara Hagachac Lauan Amuguis Guijo Apitong Sacat	.46- .89- .52- .65-	.48 .46 .98	.35- .30- .40- .50-	.37 .35 .75 .65	90- 70- 110-	90 150 140 115	1 2 3 2	00 00 00

This cost, as with the calculations throughout, is estimated regardless of the groups to which the logs belong. As a matter of fact, it costs slightly more to remove Narra than other kinds of timber, for the trees are lower growing and the logs harder to handle on account of their angular shape. With the other kinds of timber there is but little difference in the cost of handling.

Taking into account the stumpage charges, the cost of delivery, and the selling prices, it will be seen that there is an excellent profit to be made upon the higher-group timbers, and a fair one upon all, even with the primitive methods in use. With improved methods and equipment, the cost should be so reduced that an assured profit could be made upon all timber taken from the forest.

## STRAITS RUBBER COMPANIES

A report, by Mr. G. M. Dundas Mouat, on the Bertam Estate, Province Wellesley, Straits Settlements, has been issued to the shareholders of the Straits Settlements (Bertam) Rubber Company, Limited. He found work progressing most satisfactorily and a wonderful improvement all round, that in the appearance of the rubber being most apparent, whilst the drains have been thoroughly attended to with marked effect. He speaks most hopefully of the rubber prospects. He concludes:-We are fortunate in our manager. With the Malakoff Estate, on our boundary, relations are of the most cordial nature, and the estates are thereby enabled to work to- . gether-a most desirable condition when it is remembered how Bertam and Malakoff form practically the whole of the Northern Province. Government, too, is so-far trying to meet us whenever and wherever possible, and from all points of view our prospects are extremely bright. I have much pleasure in congratulating you on the acquisition of such a large property with such excellent prospects.

### ANGLO-JAVA SYNDICATE

The Anglo-Java Syndicate has been registered at Home with a capital of £10,000 in £5 shares. To adopt an agreement with G. R. Edgecombe to acquire concessions for indiarubber estates, &c. No initial public issue. First directors (not less than three nor more than five) to be appointed by signatories.

### SEAFIELD RUBBER CO.

A London wire of Feb. 23 says:—The Seafield (Selangor) Rubber Co., Ltd.'s, issue has been four times subscribed, and the shares command 15. 4d. premium.

### NEW CEYLON COMPANIES

The Udabage Co. being formed in Colombo has been well subscribed for at home.

The P. P. K. Rubber Estates, Ltd., has been registered at Home. The Company is acquiring Putupaula estate, and its capital is £65,000.

## ULU RANTHU RUBBER ESTATE

The statutory meeting of the Ulu Ranthu Rubber Estate Company, Ltd., was held at the registered offices, 81, Gracechurch street London, E. C., on Feb. 5th. The directors present were Mr. E. S. Grigson (in the chair) and Mr. P. C. Oswald. In moving the adoption of the report, the Chairman made the following remarks: No prospectus having been issued in connection with the formation of this Company, the following particulars may be interesting to the shareholders:-The property consists of a block of land 1,009 acres in extent, and is held on perpetual lease from the Government of the Federated Malay States at an annual quit rent of \$1 per acre. It is situated in the Negri Sembilan district, close to the well-known Seremban Estate, and immediately adjoining properties belonging to the Anglo-Malay Company. It is most conveniently placed for transport purposes, there being a Government cart road at the foot of the land, leading to two railway stations, one on either side, and both are within a few miles of the property. The soil is of the average hill country type, and the land being all undulating and hilly, there is a good natural drainage. The acreage is as follows:-124a, rr. 3op. opened in 1904, 102a. 10r. 3op. opened in 1905, 111a. 1r. 3p. opened in 1905-6, 177a, 27. 4p. opened in 1906; total opened, 515a. 11. 27p.; reserve land, 494a.; total, 1009a. 11. 27p. The growth of the rubber trees has been most favorably reported on, and while there are still some failures to renew in the later opened land, the work in connection with the several clearings has been well and carefully done. It is the wish of the directors to proceed with the further development of the property, and it is expected that another 100 acres will be opened during the year 1907, but they attach great importance to keeping the already planted area in good order as regards weeding and draining, etc., and further exten-

sions, therefore, will depend a good deal on the amount of labor that may be available. Just at present the supply of Tamil coolies is not very abundant, the scarcity being partly due to the demand for labor that has arisen in the neighborhood and partly to the effects of a very unhealthy season. To meet the requirements of routine work, Chinese labor has lately been employed on the planted area, and though it is satisfactory to know that this labor is available in case of need, Tamil labor is cheaper and better for estate purposes, and the manager hopes soon to have a sufficient supply of the latter for his requirements. The purchase price of the estate, which was paid entirely in shares, amounted to £14,375. Assuming the reserve land to be worth £5 per acre, the cultivated area works out at an all-round average price of £23 per acre for 515 acres of rubber, some of which is now upward of two years old. The figures will be found to compare very favorably with those pertaining to other companies in the Federated Malay States .- Straits Chronicle.

## SINGAPORE AND JOHORE RUBBER CO., LTD

The third report of the directors to the shareholders at the meeting on March 26th reads:-

Your Directors beg to submit the Accounts for the year ended 31st December last. It will be seen that a further sum of \$51,644.62 has been expended on Development making the total to date \$89,241.54.

Labor.—The difficulty of securing a sufficiency of Coolies has at last been surmounted. A force of 443 Tamils has been successfully recruited from India, and Javanese Coolies are now coming in freely. The want of sufficient labor has heretofore considerably delayed the opening up of the Estate but your Directors are now in a position to push ahead with development and, as will be seen from the Manager's Report, they expect to have over 1,200 acres under rubber by the end of 1907.

Gambier.—Although the Estate is producing an absolutely pure article it has been difficult to get buyers to take an interest in the product, and further planting has been stopped for the present. Samples have been freely distributed and enquiries which have emanated therefrom lead your Directors to hope that ultimately a market will be found.

Buildings.—During the year further lines have been erected and there is now sufficient accommodation of this sort for all the Coolies likely to be required on the Estate. A Bungalow, Office, Shop, and Hospital have also been erected.

Directors.—The board now consists of Messrs. A. W. Stiven, F. W. Barker, D. T. Boyd, and W. D. Fisher. In accordance with the Articles of Association Mr. F. W. Barker retires and as he is leaving for Europe shortly does not offer himself for re-election.

## THE SANDYCROFT RUBBER COMPANY, LIMITED

The following is the second report of the Directors to the Shareholders:

Singapore, March 18, 1907.

Gentlemen,—Your Directors beg to submit a duly audited statement of accounts for the year ended 31st January last. The net profit for the year after making ample provision for depreciation amounts to \$17,679.81 to which has to be added the balance of \$1,285.88 brought forward from last account, making a total of \$18,965.69 available at 31st January 1907.

Your Directors recommend:—(1) That a dividend of 20% be paid to shareholders absorbing \$17,000. (2) That \$500 be transferred to Employees' Bonus Account. (3) That the balance of \$1,465.69 be carried forward to next account.

CULTIVATION.—The area under rubber is now 257 acres with some cocoanuts intermixed and there are 6 acres under cocoanuts only. The rest of the land, say some 10 acres, is

either occupied by buildings or is low-lying and swampy and may be left out of account.

Para Rubber.—13,046 trees were tapped during the year resulting in a yield of 12,717lbs. Sheet, and 3,461 lbs. Scrap, which as you will see from the accounts is estimated to give to give a net return of \$27,128.88.

The rubber in transit and in store has been taken at \$1.75 per 1b. for Sheet, and \$1 per 1b. for Scrap which your Directors consider quite safe prices.

14,120 trees have been marked for tapping during 1907.

Seeds and Stumps have met with a ready sale, and an income of \$4,159.04 has been received from this source.

LABOR.—The force on the Estate is not sufficient for present requirements but steps are being taken to remedy this.

Buildings.—The rubber store has been considerably extended. Some small expense will be incurred during the current year in moving certain of the Coolie Lines to what is expected will prove a more healthy situation, and some addition to the Lines will have to be made, but no large expenditure under this head will be necessary in the immediate future.

EXTENSION.—Negotiations have been completed to purchase from Mr. Bratt about 150 acres of land adjoining Sandycroft Estate in exchange for 50 fully paid shares in the Company. The land is all planted up with yearling stumps and was taken over by the Company on 1st February last. Your Directors consider that the acquisition of this land considerably enhances the value of your property. To obtain the necessary Capital to carry these 150 acres into bearing your Directors decided to issue the remaining 100 shares of the Company at a premium of \$150 per share and to offer these in the first instance to present shareholders.

Directors.—The Board now consists of Messrs. F. W. Barker (Chairman), E. H. Bratt, M. E. Plumpton, and A. W. Stiven. In accordance with the Articles of Association Mr. Stiven retires, and as he is leaving the Colony, does not offer himself for re-election.

AUDITORS.—Messrs. Derrick & Co. retire and offer themselves for re-election.

F. W. BARKER, Chairman.

## ELECTRIC LIGHT PLANT FOR SALE

In another column may be found the advertisement of the Manila Electric Lighting and Power Co., offering for sale an entire electric light and power plant with every modern equipment. The plant was formerly the property of the Electricista and furnished the light and power for the city of Manila previous to the granting of the franchise to the new company. This is a splendid opportunity to secure an up-to-date plant at a most reasonable price.

## HONGKONG HIGH-LEVEL TRAMWAYS CO.

The following is the liquidators' report of the Hongkong High-Level Tramways Co., Ltd., submitted at the meeting April 3:

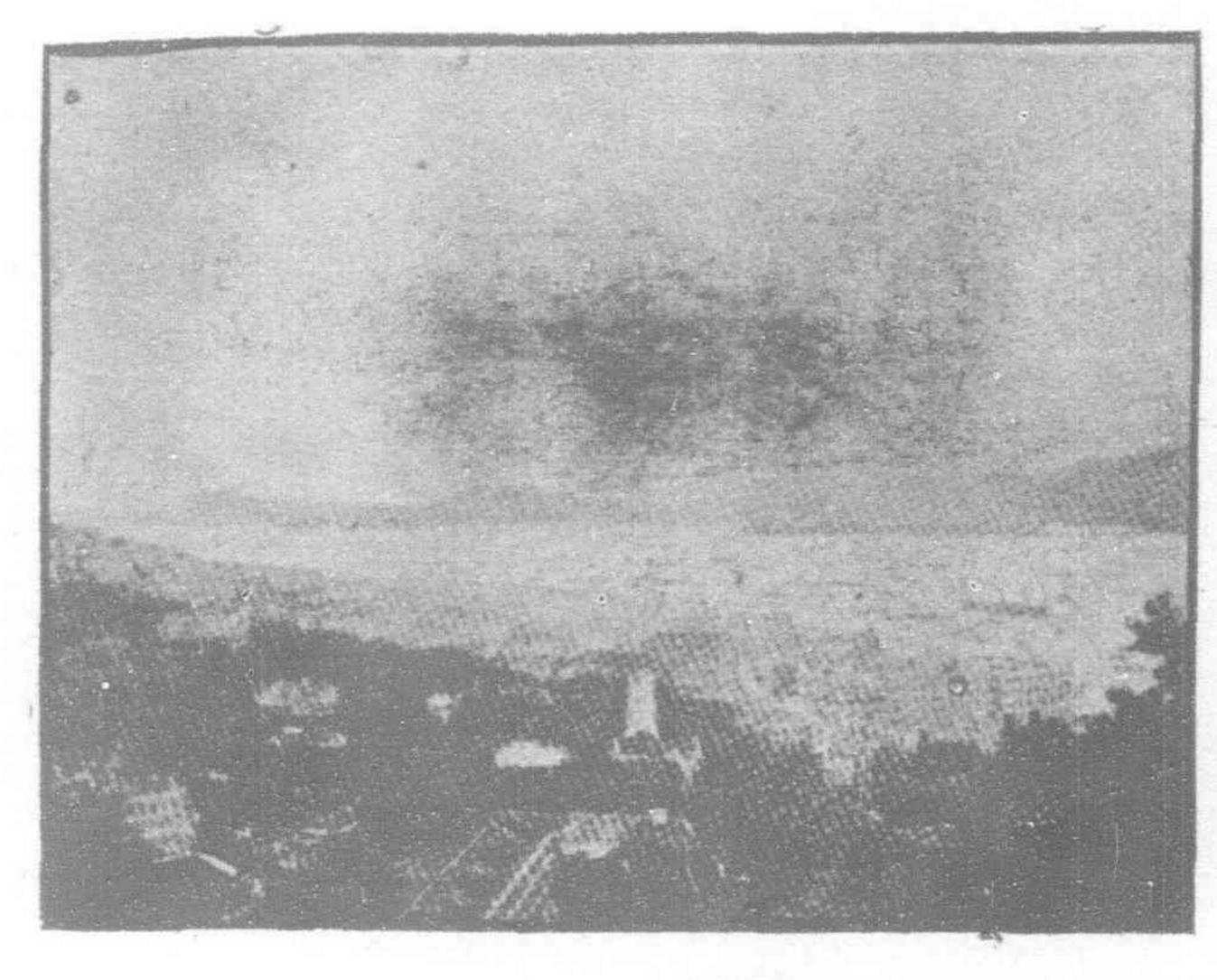
"In accordance with the agreement made for the sale of the undertaking of the Hongkong High-Level Tramways Company, Limited (the old company), to the Peak Tramways Company, Limited (the new company), the liquidators have to distribute among the shareholders of the old company the profits earned by the old company since the 30th November, 1904, up to the 18th October, 1905, and also the sum of \$2,796.28 at credit of profit and loss account of the old company on 30th November, 1901. A first dividend in liquidation of \$20 per share was paid on 3rd September, 1906, and we now declare a final dividend of \$11.15. Subject to the above the whole of the assets and liabilities of the old company will be handed over to the new company after the consent of the Government has been obtained to the transfer. The accounts of the old company are now closed.

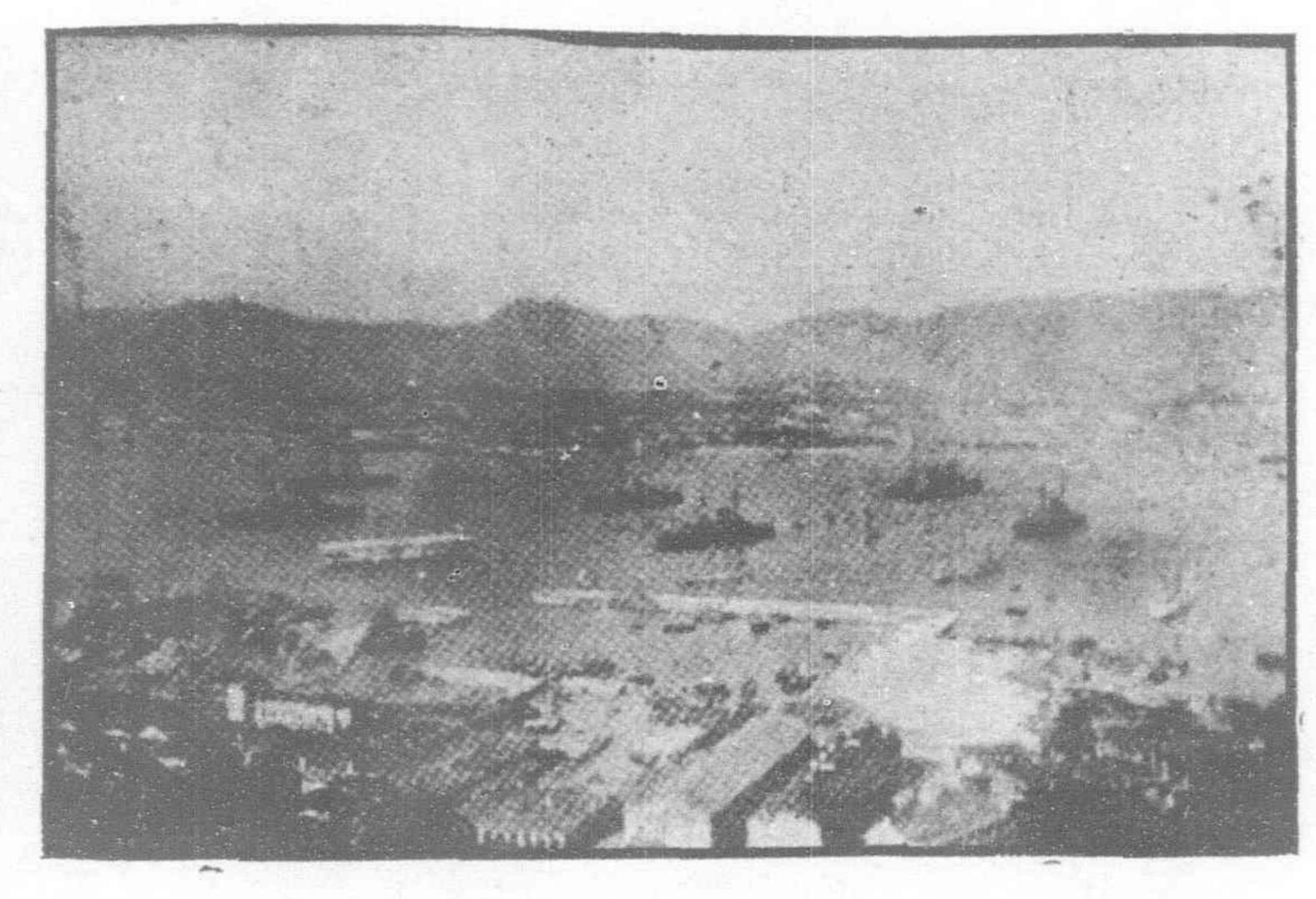
## HONGKONG'S SHIPPING FOR 1906

The report of the harbormaster of the port of Hongkong for the fiscal year ending December 31, 1906, has been submitted to the Legislative Council of Hongkong and shows a marked increase in the tonnage of that port compared with former years. The following excerpt is taken from the Hongkong Government Gazette:

to their various routes at the conclusion of the late war, thereby supplanting several British vessels which had been chartered in their stead, and partly to the disappearance of tramp steamers which carried stores for the opposing fleets; and eliminating the 893,890 tons ascribed in last year's return as an ab-

The 417 British vessels carried 3,604 British officers and 31 foreign officers as follows:—British, 3,604; Danish, 2; Dutch, 2; Norwegian, 2; United States, 25—total, 3,635. Thus, the proportion of foreign officers serving in British vessels was 0.85 per cent., comprising four nationalities. A decrease of 0.14 per cent.,





HONGKONG HARBOR FROM THE PEAK SHOWING NEW NAVAL DOCKS

SHIPPING.

The total tonnage entering and clearing at ports of the Colony during the year 1906 amounted to 32,747,268 tons, being a decrease compared with 1905, of 1,437,823 tons; but in combining ocean and steam-river trade, a tonnage amounting to 19,793,384 is shown, an increase of 86,656 tons over 1905 and the highest yet recorded. In putting aside river trade, a substantial increase in ocean trade appears, amounting to 789,857 tons.

There were 214,556 arrivals of 16,394,508 tons, and 215,170 departures of 16,352,760 tons.

Of British ocean-going vessels 3,595,879 tons entered, and 3,593,592 tons cleared.

Of foreign ocean-going vessels 3,565,449 tons entered, and 3,528,046 tons cleared.

Of British river steamers 2,424,961 tons entered, and 1,311,439 tons cleared.

Of foreign river steamers, 334,831 tons entered, and 333,086 tons cleared.

Of steamships under 60 tons trading to ports outside the waters of the Colony 20,141 tons entered, and 20,141 tons cleared. These figures not include private steam-launches.

Of junks in foreign trade 1,307,972 tons entered, and 1,311,493 tons cleared.

Of steamships under 60 tons plying within the waters of the Colony 4,125,768 tons entered, and 4,125,768 tons cleared. These figures are incomplete, as the "Star" Ferry Company's wraft are not included, the Company stating that no record is kept of the number of trips made, or passengers carried, by their vessels.

Of junks in local trade 1,019,507 tons entered, and 1,023,148 tons cleared.

Seven thousand seven hundred and seventy-(7,772) steamers, 14 sailing vessels, and steamships under 60 tons in foreign trade, lered during the year, giving a daily average of 22.5 as compared with 24.81 in 1905. The figures for foreign trade junks are added, daily average would be 61.4, as against in 1905.

table shows a decrease of 298 ships of 1853 tons. This decrease is mainly due vessels under the Japanese flag returning

normal increase, practically due to the state of war existing, a legitimate increase to the British flag is shown, amounting to 411,037 tons.

In British river steamers there is a decrease of 1,024 ships of 711,521 tons shown, which is due to the serious disasters that befell these steamers during the typhoon on the memorable 18th of September, and to the gutting by fire of the Hankow in the following month. During the necessary repairs of the crippled vessels, coasting steamers of small size were utilized in some instances by the different companies.

For foreign ocean vessels an increase of 442 ships of 1,272,710 tons is shown, which is almost wholly due to the Japanese vessels taking up their respective routes in place of the British vessels temporarily chartered, amounting to 594 ships of 1,275,640 tons in 1906, against 58 ships of 69,146 tons in 1905, an increase of 536 ships of 1,206,494 tons. Additionally, Corean steamers for the first time since 1901 entered the port, and assisted in the increase by 30 ships of 61,596 tons. Vessels under Norwegian flag show a decrease of 135 ships of 186,093 tons.

For foreign river steamers an increase of 96 ships, representing 8,320 tons, is shown and can be ascribed to more trips being made by vessels under the French and Portuguese flags, supplemented by vessels under the German and Japanese flags which did not compete in this trade before.

The other increases and decreases are of small importance, excepting junk and steam-launch trade within and outside the waters of the Colony. These vessels in many cases suffered disastrously in the typhoon already mentioned, and can be applied to the abnormal decrease shown, assisted by a gradual falling off in junk trade throughout the year.

The actual number of ships of European construction (exclusive of river steamers and steam launches) entering during the year was 870, being 417 British and 453 foreign.

These 870 ships entered 4,012 times and gave a total tonnage of 7,151,328 tons. Thus, compared with 1905, 19 less ships entered 86 more times, and gave an aggregate tonnage increased by 404,728 tons.

with a decrease in number of officers and ships.

The 453 foreign vessels carried 3,377 officers, of whom 170 were British as follows:—Chinese vessels, 84; French vessels, 2; German vessels, 2; Japanese vessels, 47; Russian vessels, 3, United States vessels, 32—total 170. Thus; 5.03 per cent. of the officers serving in foreign vessels visiting the port were of British nationality. An increase of 0.92 per cent. with an increase in number of ships and of officers therein.

The 417 British vessels carried, as crews, 30,694 British, 1,837 other Europeans, and 108,032 Asiatics; while the 453 foreign vessels carried 1,594 British, 37,166 other Europeans, and 97,018 Asiatics. Hence, in British vessels:—21.7 per cent. of the crews were British; 1.3 per cent. of the crews were other Europeans; 77.0 per cent. of the crews were Asiatics. And in foreign vessels:—1.2 per cent. of the crews were British; 27.4 per cent. of the crews were other Europeans; 71.4 per cent. of the crews were other Europeans; 71.4 per cent. of the crews were Asiatics.

## TRADE.

Only an approximation of detailed cargo measurement, weight, etc., is given under this heading, in many cases, enumerated cargo, which should be so shown (as expressed in table under imports) is reported as general, except sugar and opium, these being manifested at this office can be taken as reliable.

Under imports there appears an increase of 159,426 tons, or 4.1 per cent., principally due to sugar, general, rice and flour, respectively. In sugar 170,391 tons or 54.6 per cent., is shown.

In rice, 58,198 tons, or 10.3 per cent., is recorded. This increase would have been considerably enhanced were it not for the scarcity of cargo boats, following the typhoon in September. Many of the vessels departed with full cargoes as transit, which otherwise would have been reported as imports.

In flour, 25,127 tons, which points somewhat to a cessation of the boycott of this commodity from the United States, although some small shipments have been reported from Australia at the early part of the year.

Among the decreases, coal is prominent, amounting to 112,622 tons, which may be explained to some extent in the same manner as reported in 1905, a cessation of maritime warfare and an overstocked market.

Case oil follows with a further falling off of 45,569 tons, this reduction may be ascribed to the large stock accumulated in the Colony on account of the boycott and to shipments that passed through the harbor as transit for other ports, which hitherto, in some instances, were landed and reshipped at this port.

A decrease is reported of 537,058 tons in transit cargo, which may be explained by the falling off of transport service at the conclusion of the late war and to a reported general slackness of trade existing for some time past.

The report also shows a decrease of 232,864

tons in export cargo.

The total reported import trade of the port for 1906 amounted to 22,408 vessels of 11,249,233 tons carrying 7,372,075 tons of cargo of which 4,493,715 tons were discharged at Hongkong.

Similarly, the export trade of the port was represented by 22,142 vessels of 11,203,844 tons, carrying 2,778,441 tons of cargo and ship-

ping 690,689 tons of bunker coal.

During the year 1906, 15,519 vessels of European construction of 19,793,354 tons (net register), reported having carried 9,759,648 tons of cargo, as follows:-Import cargo, 4,029,177 tons; export cargo, 2,163,344 tons; transit cargo 2,878,360 tons; bunker coal shipped, 688,767 tons.

The total number of tons carried was therefore 49.31 per cent, of the total net register tonnage, (or 64.40 per cent. exclusive of river steamers), and was apportioned as follows:--Imports: British ocean-going ships, 1,893,234; foreign ocean-going ships, 1,851,053; British river steamers, 222,256; foreign river steamers, 62,634 -total, 4,029,177.

Exports: British ocean-going ships, 1,092,842; foreign ocean-going ships 847,432; British river steamers, 173,483; foreign river steamers,

49,587-total, 2,163,344.

Transit: British ocean-going ships, 1,668,276; foreign ocean-going ships, 1,210,084-total,

2,878,360. Bunker coal: British ocean-going ships, 248,581; foreign ocean-going ships, 387,030; British river steamers, 43,350; foreign river steamers, 9,806-total, 688,767; grand total, 9,759,648.

## REVENUE.

The total revenue collected by the Harbor Department during the year was \$274,008.78 as against \$302,787.76 (including \$2,220 collected under the Sugar Convention Ordinance) collected in the previous year, showing a decrease of \$28,778.98:—Light dues, \$77,722.04; licences and internal revenue \$61,748.33; fees of court and office, \$134,533.21; miscellaneous receipts,

\$5.20-total, \$274,008.78.

For purposes of comparison, the amount of decrease, \$28,778.98, may properly be reduced by \$12,219.58, being amount of storage fees paid in November 1905 by owners of war materials, which had been seized and ultimately restored by this Government, an item of revenue not to be expected again, leaving a net decrease of \$16,559.40 to be accounted for. The principal falling off in revenue comes under the heading: junk fees, \$1,457; engagement and discharge of seamen, \$1,528; storage of gunpowder, yet another sum of \$4,769; Sunday cargo-working permits, \$12,007; and survey of steamships, \$3,815. The principal increases are under light dues, \$3,488; fishing stake and net licences, \$1,115 and medical examination of emigrants, \$3,582.

## STEAM LAUNCHES.

On the 31st December, there were 291 steamlaunches employed in the harbor, of these, 138 were licensed for the conveyance of passengers etc., 138 were privately owned, 15 were the property of the Government and five belonged to the Imperial Government in charge of military authorities.

Thirteen master's certificates were suspended, two for six monhs, one for four months, two for three months, two for two months, one for one month, one for six weeks and one for two weeks, one cancelled and two masters were cautioned and discharged, respectively.

Three hundred and thirty-four (334) engagements and three hundred and sixty-four (364) discharges of masters and engineers were made from 1st January to 31st December.

Twelve (12) steam launches were permitted to carry arms, etc. for their protection against pirates, of these 11 were previously permitted and one during this year.

#### EMIGRATION.

Seventy-six thousand seven hundred and twenty-five (76,725) emigrants left Hongkong for various places during the year, of these, 63,830 were carried by British ships and 12,-895 by foreign ships; 134,912 were reported as having been brought to Hongkong from places to which they have emigrated, and of these, 105,780 were brought in British ships and 25,586 by foreign ships.

#### REGISTRY OF SHIPPING.

During the year, nine ships were registered under the provisions of the Imperial Merchant Shipping Act, and 12 certificates of registry were cancelled. And 412 documents, etc., were dealt with in connection with the Imperial Merchant Shipping Act. The fees collected on these documents, etc., amounted to \$1,201.

#### MARINE MAGISTRATE'S COURT.

Twenty-seven (27) cases were heard in the Marine Magistrate's Court. Breach of Harbor Regulations were the principal offenses. Also four Marine Court enquiries, re the steamers Chu Kong, Hankow, Kinshan and Heungshan.

#### BOARD OF TRADE EXAMS.

Altogether 130 candidates for certificates of Master (18), First Mate (13), Second Mate (12), First Class Engineer (21), Second Class Engineer (45) were examined. Of these 109 candidates passed and 21 failed.

Some 211 launch certificates were granted for either Master (129), or Engineer (82).

Also four exam nations for pilots' certificates, all the candidates being Chinese, were held during the year, and 13 licenses were renewed and one license previously issued was cancelled at the request of the licensee.

## SUNDAYS CARGO WORKING.

During the year, 399 permits were issued under the provisions of the Ordinance. Of these, 126 were not availed of owing to its being found unnecessary for the ship to work cargo on Sunday and the fee paid for the permit was refunded in each case.

The months of September and October accounted for \$2,427.50 of the decrease; in the former month after the typhoon of the 18th September, vessels were allowed to work cargo on Sundays without paying fees and in the latter month only one-tenth of the prescribed fees were charged on permits, the remainder of the decrease being shown by the other months of the year.

## NEW TERRITORIES.

From 1st January to 31st December, 1906, 9,198 licenses, clearances, permits, etc., were issued at Cheung Chau, 4,081 at Tai O, 5,953 at Tai Po, 3,156 at Deep Bay, 2,632 at Sai Kung and 3,909 at Long Ket.

The revenue collected by this Department from the New Territories during 1906, was \$18,944.25 or \$780.55 more than in 1905.

## GENERAL.

During the year under review, some important changes have taken place, notably:-the vacating of the old Harbor Office for the present commodious new building, which has alleviated matters considerably for the better working of the Department.

The telegraph service from the outlying lighthouses, viz.; Gap Rock, Waglan and Green Island, has been installed and worked from this building. Additionally, shipping firms have been apprised of the passing of their vessels inward, which hitherto was done by the Eastern Extension Telegraph Co.'s office.

The deplorable loss of life and damage done, due to the typhoon of the 18th September, will be indelibly marked in the annals of the Colony Fifty-nine merchant vessels of European construction suffered in the waters of the Colony, 5 of 1,812 tons foundered, 22 of 22,478 tons stranded, 5 of 1,344 tons broken against sea wall, 13 of 21,420 tons badly damaged, and 14 of 25,131 tons slightly damaged. There were in addition 16 lighters of European construction sunk, and badly damaged, 34 launches sunk, 50 damaged and approximately 1,796 native craft sunk, and in the majority of cases totally lost. It can be safely said that all craft suffered in the harbor, more or less damaged during the blow. The loss of life, I regret to say, must have been excessively high, amounting to approximately 5,000, though there are no positive records to show the actual number that perished.

## HONGKONG ROPE CO. (LIMITED)

The twenty-third ordinary general meeting of the Hongkong Rope Company Limited, was held in the offices of the General Managers, Messrs Shewan, Tomes and Company at noon on March 23.

Mr. R. Shewan was in the chair, and there were also present:-Messrs. P. H. White, D. W. Craddock, A. J. Raymond, R. Hancock and R.

Henderson (secretary).

The secretary read the notice convening

the meeting.

The Chairman said-Gentlemen, We have now to come before you with the report and accounts for the year 1906, copies of which were issued to you on 8th instant, and which with your permission will now be taken as read. There is little in the report that calls for comment. The profit is slightly greater than the previous year's as the price of raw material was more in our favor, and we are, therefore, able to recommend our old dividend of 20 per cent. On the other hand, the high value at which the silver dollar was maintained throughout the year was against us, and considerably reduced our returns from those countries where we have to sell in gold, besides handicapping us in competition with rope made at home, and restricting our sales all round. The accounts are simple, and require no explanation. You will observe that the investments of the reserve fund are stated at the current quotations on 31st December last, and their rise in value passed to the credit of investment fluctuation account. As for the present year, the prospects are, if anything, a shade better. The hemp market at Manila has weakened since the beginning of the year, while silver also seems on the downward grade; let us hope that this promise of better things may be fulfilled, and so enable us to extend our business in every market around us. Our competitors may be able at times to produce a cheaper article, but they only do so by adulterating their fibres, and have never yet been able to offer quality at all approaching that which is turned out by our factory.

There being no questions the Chairman moved the adoption of the report and accounts, which

was carried.

Messrs. A. J. Raymond, H. P. White, D W. Craddock and Dr. J. W. Noble were re-elected directors on the motion of Mr. Hancock, seconded by Mr. Shewan.

Messrs. W. H. Potts and A. O'D. Gourdin were re-elected auditors on the motion of Mr. Craddock, seconded by Mr. White.

## WATER SYSTEM AND ELECTRIC LIGHT AND POWER FOR ZAMBOANGA

The provincial engineer of the Moro province, Mindanao, has prepared estimates for a water system for the city of Zamboanga to cost \$53,658. In connection with the water system he proposes to provide power for an electric plant and estimates the additional expense at \$42,625 or a total for the water and electric system of \$96,253. The point selected for the in take is on the Tumaga river about 24,000 feet from Zamboanga and 150 feet above sea-level.

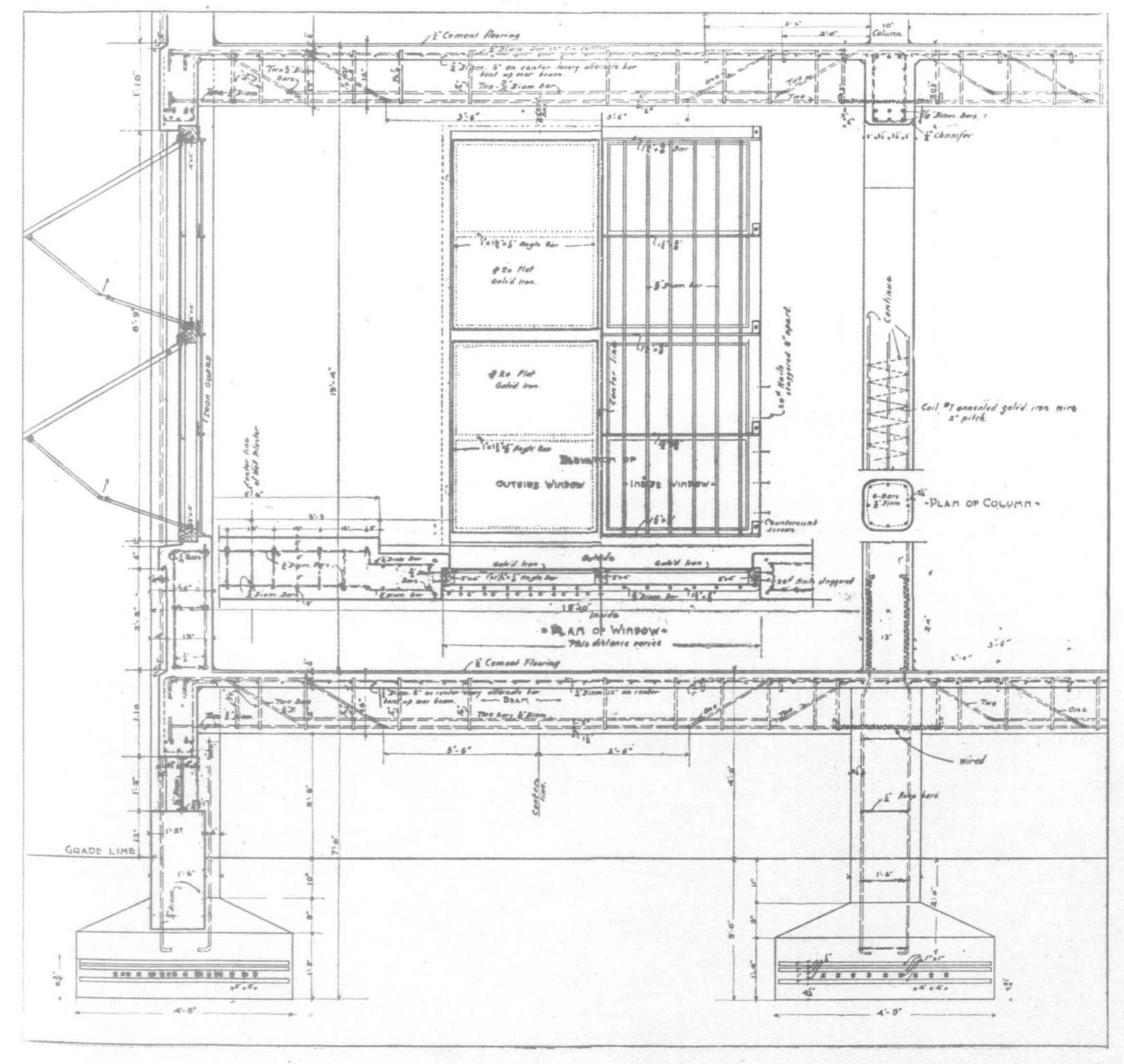
## NEW INSANE WARDS AT SAN LAZARO HOSPITAL, MANILA, OF REINFORCED CONCRETE

The construction of the new insane wards at San Lazaro Hospital by the Philippine Government is being watched with interest by all believers in permanent construction in the Far East. This is the first insular government building to be built of reinforced concrete in the Philippines although the government has been successfully engaged for some time in constructing bridges and culverts on the leading highways in the islands of a per-

manent character by the use of reinforced concrete. Constant care is necessary to properly supervise the work. Every mixture of concrete is inspected and every rod of steel as it goes in place is subjected to the most rigid tests so that there will be no opportunity for any weak point to develop. The workmen available are not familiar with the work, but the contractors are more than pleased with the interest taken in mastering the details, and it is conceded that

in a short time the lack of available skilled workmen for this class of construction will not be an obstacle to the general use of reinforced concrete, throughout the islands.

This new building is an L-shaped structure in two stories, the length of each wing being 76 feet and the width 40 feet. The entire floor surface of each story is devoted to a single ward, spaces for bathrooms and water closets being partitioned off in one corner. For

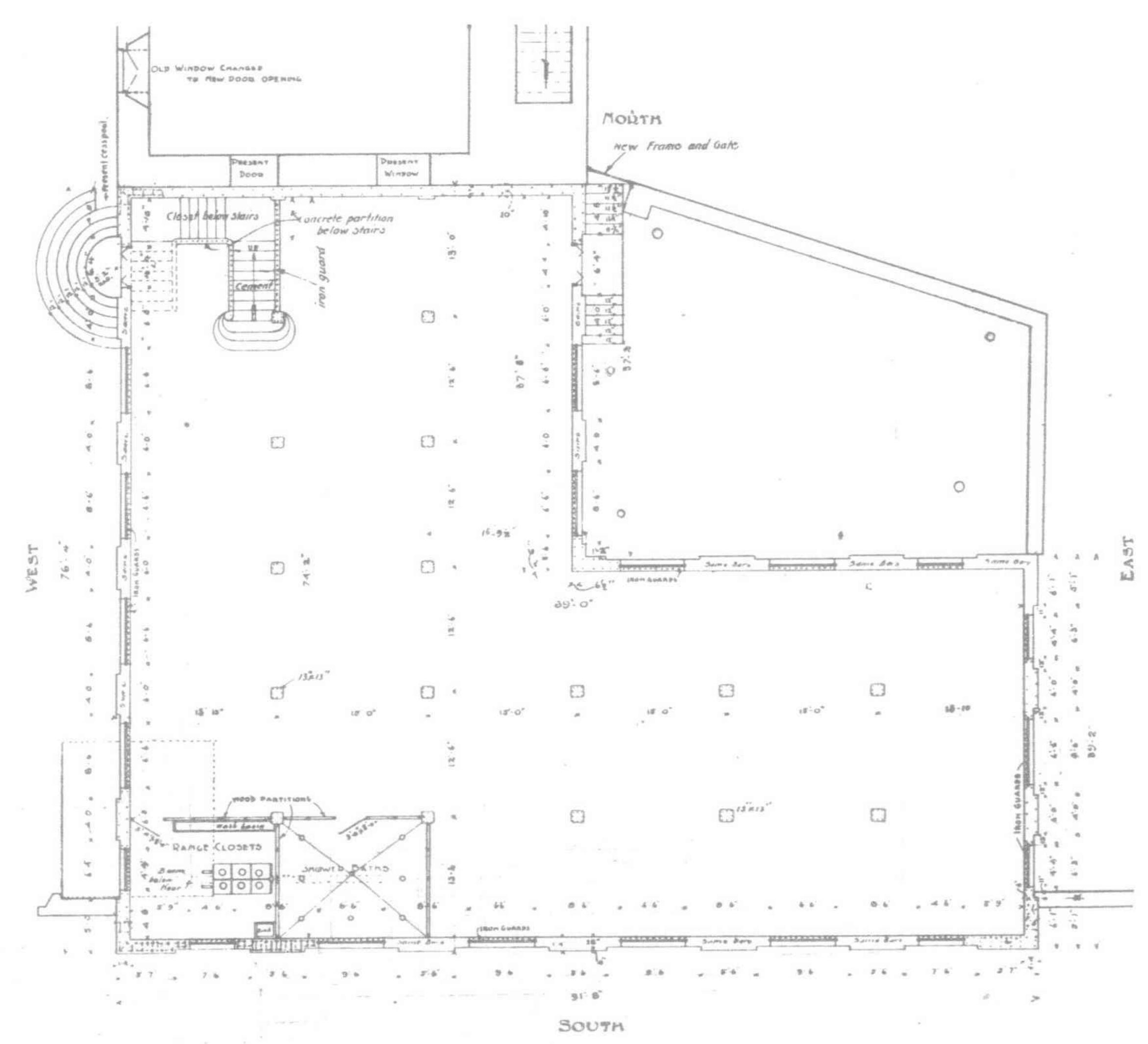


DETAIL SHOWING BAR-REINFORCEMENT CONSTRUCTION IN THE NEW INSANE WARDS AT SAN LAZARO, MANILA, P. I.

economy of administration, one end of the building adjoins directly the end of the existing building, to which the attendants and nurse have free access.

The new wards are intended entirely for males. The recreation ground which adjoins the building on both sides and is inclosed by the existing stone walls is available for all the occupants of this structure.

The form work for this structure is prepared by Chinese carpenters and all the other work, including the mixing and placing of concrete and the setting in place and wiring of the reinforcement rods, is done by Filipino workmen, the native workmen seeming to take very readily to the placing of the rods and the wiring of the intersections with annealed iron wire, this work being really not unlike construction to the B. W. Cadwallader Company, the lowest bidders, for the sum of \$\mathbb{P}\_{32,044}\$, and the cost of the building, including reinforcing steel and plumbing fixtures which were provided by the government, will amount to, approximately, \$\mathbb{P}\_{45,000}\$. The inspection of the work is under the direction of the bureau of public works, Mr. J. C. Koch, assistant engineer of that Bureau, being the chief inspector.



GROUND FLOOR PLAN OF THE INSANE WARD AT SAN LAZARO, MANILA, P. I., NOW BEING CONSTRUCTED OF RE-INFORCED CONCRETE

The first floor is at a level of about five feet above the ground, with a ventilated air space underneath. The interior corners at the floors and walls are all rounded in order to facilitate cleaning and disinfection.

The construction throughout is of reinforced concrete, the foudations, walls, floors and even the stairway being of this material. The amount of wood used in the building is thus reduced to a minimum, the only wood used being in the window frames and the compression members of the roof trusses. In accordance with the policy recently determined upon by the insular government, for buildings of a permanent character, native hard wood of the first or second group is used.

This is the first reinforced concrete building constructed by the insular government and it is thought to mark the beginning of a new policy for construction of public buildings. While comparatively an unimportant building, its location being at a considerable distance from the street, its construction is being watched very carefully by not only the inspectors in charge but also by contractors and the public who are interested in this form of construction.

with bamboo where the intersections are wound with bejuco.

Precautions are being taken against the action of the sun on the fresh concrete by protecting the walls with burlap which is kept moist, the specifications requiring the protection of freshly laid concrete for a period of seven days. The concrete floors are protected from the same injurious effect by covering with about two inches of sand, which is wetted down occasionally with a hose.

In the general treatment of the exterior, effort has been made, as far as possible, to produce a design harmonious with that of the old structure which was built, probably two hundred years ago, of masonry of the most substantial appearance. The wide buttresses which appear in the old part, running through two stories, are recalled in the new design, the construction of reinforced concrete being logically expressed on the exterior of the building in the form of wide pilasters.

The complete drawings and specifications were prepared in the office of Mr. W. E. Parsons, consulting architect. The contract was awarded

## A. K. LA MOTTE'S SCIENTIFIC WORKS

Mr. A. K. La Motte, the veteran bookseller and stationer of Manila, whose up-to-date establishment is situated at 104 calle Real, Intramuros, has always made a specialty of keeping on sale all the latest and most desirable scientific works, besides a most complete stock of the latest publications by well known authors along other lines of thought.

In addition to his modern book and stationery establishment, Mr. La Motte has established headquarters for Moro, Igorot and other Philippine curios. He is daily in receipt of orders from all parts of the known world, and his increasing trade in this direction speaks eloquently for his splendid service.

Mr. La Motte has had a wide business experience in America and the Philippines and may be termed a self made man. He started in the book and stationery business in 1903, and every year has been marked by a steady increase in patronage.

## SEMI-ANNUAL REPORT OF YOKOHAMA SPECIE BANK

At the fifty-fourth semi-annual meeting of the directors of the Yokohama Specie Bank, held March 9, Chairman Yamakawa made an interesting address on business conditions in Japan during the latter half of the year 1906. There were present at the meeting Mr. Yoshida of the Imperial Household Department and Mr. Nagahama of the Treasury Department. In presenting this report the chairman said:

"As you well know, Mr. Takanashi, the president of this bank, has been abroad since September last under the special instructions of the Government, and is now in London. He profoundly regrets being unable to be present on this occasion, but his absence is quite an unavoidable matter. I, on behalf of the president, preside at this meeting, which I feel to be

a great honor.

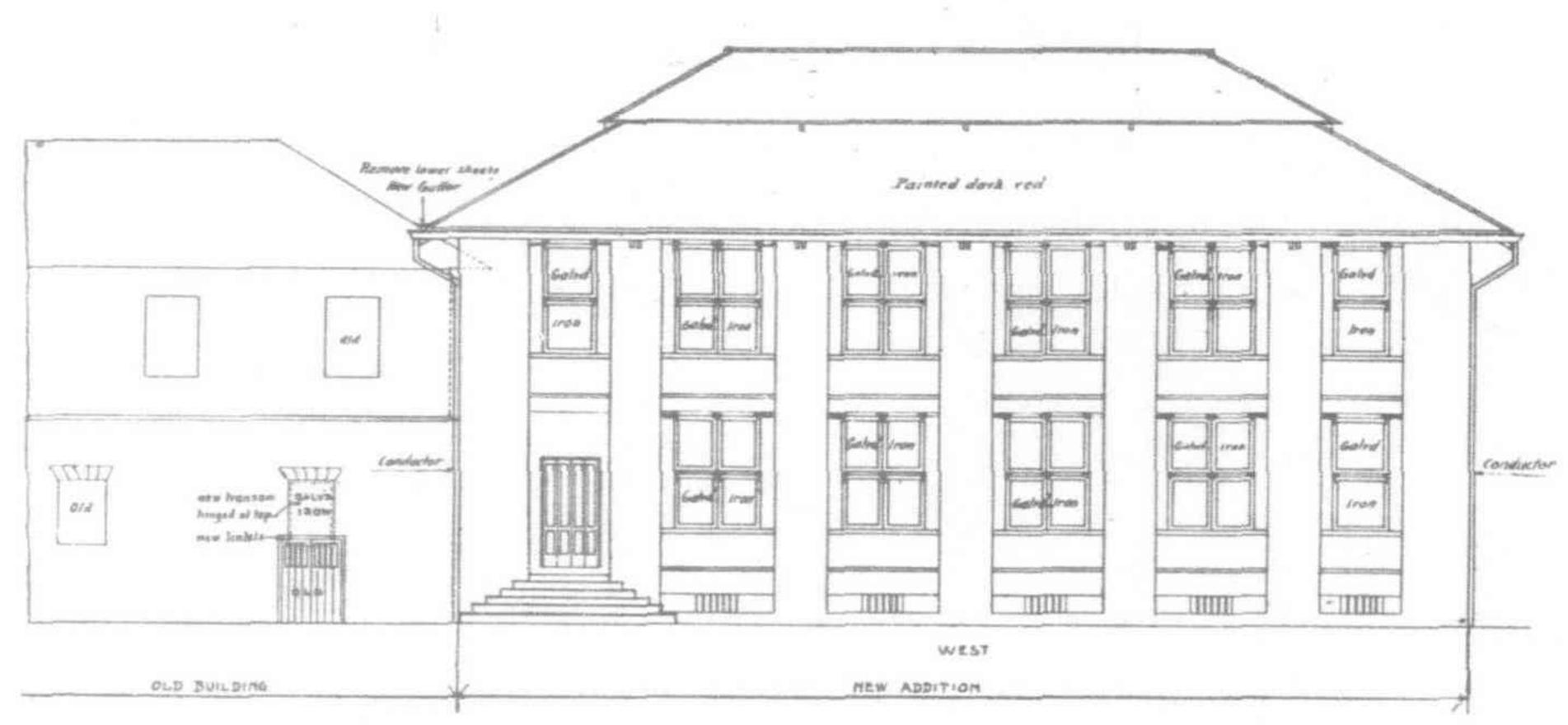
foreign trade, had favorable opportunities without leaving its funds unemployed in hand.

Turning to the condition of foreign trade during the period, the confusion caused by the war has entirely passed away, and all financial circles have been restored to their normal state. As agricultural work was productive, foreign business developed far more than was expected. The excess in imports which had been experienced for many years was changed to an excess of exports. Among the exports, business in raw silk was specially successful since the beginning of the season and excellent prices were maintained to an extent not seen for some years past. During several months, most of the staple was exported. In the half-year, the exports exceeded by Yen 32,000, in round numbers that of the previous period. The whole export of last year amounted to over Yen 110,000,000, such success in foreign business being rare in Japan.

During this period, the foreign trade was:

up, varying between 5 and 6 per cent. The severe financial conditions experienced in Great Britain were not alone due to inevitable causes at home but arose from the situation throughout the world. Again turning to the Orient, inundations were experienced in the Yangtze valleys. Famine is now prevalent in South China. Distress from drought afflicts North China, In Hongkong, severe difficulties were sustained as the result of the bankruptcy of several cotton traders and a fatal storm. Business in China was not always favorable, and owing to the rise in silver, exports were dull. In Manchuria, peace and order were gradually restored and trade between Japan and that region is developing. The difficulties experienced during the war were well surmounted so that business is generally quiet.

The advance in the price of silver is still maintained. In November last it reached thirty-three pence, which is higher than for



WEST ELEVATION SAN LAZARO INSANE WARD, MANILA, P. I.

This being the fifty-fourth semi-annual meeting of this bank to introduce the accounts of the business done during the last year, I have to give a report on the financial situation of domestic and foreign countries as well as of the business conditions of the bank. As explained at the general meeting which was held in September last, profound caution was entertained and all capitalists maintained a circumspect actitude during the first half of the year, notwithstanding expectations of the starting in considerable numbers of various enterprises; and under these circumstances, the financial situation remained inactive in spite of the favorable condition of the money market throughout the first half-year. A brisker aspect appeared in August and September and gradually the prices of various shares went up remarkably, which stimulated the promotion of general business undertakings. As a result, most of the associations already existing decided to increase their capital and many new companies were organized; and thus the fever of promoting new enterprises both in industry and commerce was the natural effect of the revival of the mancial position which had continued dull for long time. It was unavoidable that newlytablished companies should include many larted merely for speculative purposes and that the distinction between genuine and false find not be made among the projects which peared so suddenly. Warnings were often lered as to the situation, and this bank condicted its business with caution. Most of the associations, however, are still under intigation and are not yet in the way of comneing practical business, so that the funds ded for such projects are not yet collected. there were redemptions of Exchequer Bills other bonds in succession, deposits in the ling banks were further increased. Credits the banks were not in accordance with the ansion of the deposits, and consequently the banks found difficulty in employing funds. The Specie Bank being different its business nature from the various other di mestic banks and principally attending to

Yen 246,900,000 in exports and Yen 195,700,000 in imports. Comparing these figures with those of the corresponding period of the previous year, the exports show an increase of Yen 63,000,000 as there were increases in raw silk, habutae, cotton yarn, camphor, porcelain, earthenware, etc. The imports decreased by Yen 6,000,000 owing to the diminished business in iron, leather, hides, etc., for military use as well as a decrease in raw cotton, but in spite of increases in sugar, kerosene oil, oil-cake, woollen cloth, machinery, etc. This considerable change in the foreign trade is certainly to be attributed to the industrial development of Japan, and to the favorable financial situation in the countries of Europe and America. Money transactions in foreign business were quite different. The exports of gold and silver amounted to Yen 13,300,000 and the imports to Yen 7,900,000. The excessive exports seems to have been due to the demand for gold bullion in China and Hongkong for use as gold leaf, and other ornamental purposes, and also to the change in exchange rates between Occidental and Oriental countries.

Looking at foreign financial circles, we see that the convulsions which arose from the Russo-Japanese war, the Morocco affair, etc., have absolutely vanished and commerce and industry in the countries of Europe and America have been alike restored to their original healthy condition and are in a prosperous state. The agricultural crops of America, Egypt, etc., were extraordinarily abundant and consequently commerce and industry were favorably affected. As a result, the further need of business funds was apparent. In New York, the money market became difficult and the American government, therefore, carried out measures of importing gold bullion to relieve the tension. Exports of gold from London to New York, Egypt, Brazil, etc., were repeated and the gold in the Bank of England grew scarce. In October, the reserve was £27,000,000. The Bank of England raised its interest rates three times, finally to 6 per cent, which had not been seen since the war in South Africa. The discount rate, which was originally 3 per cent, also went

some years past. As to the rise, there are several causes. The principal is that the output of silver was relatively smaller than that of gold in late years and consequently a change was made in the price of silver. Futher, owing to the prosperous agricultural conditions last year in India, the need of silver increased in a permanent fashion while also the American government declared its intention to purchase a hundred thousand ounces of silver every week. Further, Mexico, which had been exporting silver for many years, changed her attitude and purchased the metal from foreign countries as the effect of the re-organization of her financial system. Lately as the result of a change in living conditions throughout the world, silver for making articles of luxury has come into great demand, which fact seems to have stimulated the rise in price.

The financial condition abroad and at home is as explained above. Exchange, there is no doubt, has been affected by the rise in gold and silver. Yet the foreign trade in Japan, fortunately, has been favorable and the business. of the Specie Bank was also successful. The net income in the period was Yen 2,217,239.20, to which the balance, Yen 793,908.04, brought from the previous account, was added, making a total of Yen 3,011,147.24, The expenditures for the proposed establishments of the various branch offices were fixed at Yen 1,400,000 at the previous meeting, for which purpose a million yen was set apart as a reserve. There is a further sum of Yen 400,000 required for that expenditure. On the other hand, the price of various commodities has risen. Perhaps a further shortage will have to be met at the time when construction is commenced. Consequently the directors decided to make a espcial reserve as arranged in the statement of accounts. In conclusion, I am glad to add some words as to our business in Manchuria. There are no special matters to be explained to you. In October last, an Imperial Edict was proclaimed with regard to silver notes in China and Kuantung. The bank will use its utmost efforts in accordance with the law. In February this year, a branch office was provided at Changchun for the foregoing purpose.

For the improvement of business, the payment—three million yen—of the third shares is to be made as already intimated to the shareholders. After the additional capital is collected the paid-up capital will amount to twenty-four million yen.

To develop the business, the directors decided to raise the number of directors from seven to ten, for which proposal reasons are now laid before you. The accounts follow:—

	Yen.
Gross income including the bal- ance, Yen 793,908.04 brought from previous accounts Expenditure	10,447,288.75 7,436,141.51
Net profit	3,011,147.24
Legal Reserve	350,000.00
Special Reserve	500,000,00
Dividend (Yen 6 each per old, new and second new share and Yen 4.50 per third new	
share)	1,260,000.00

Viscount Y. Mishima, Mr. C. Kawashima and Mr. H. Bekki were elected additional directors.

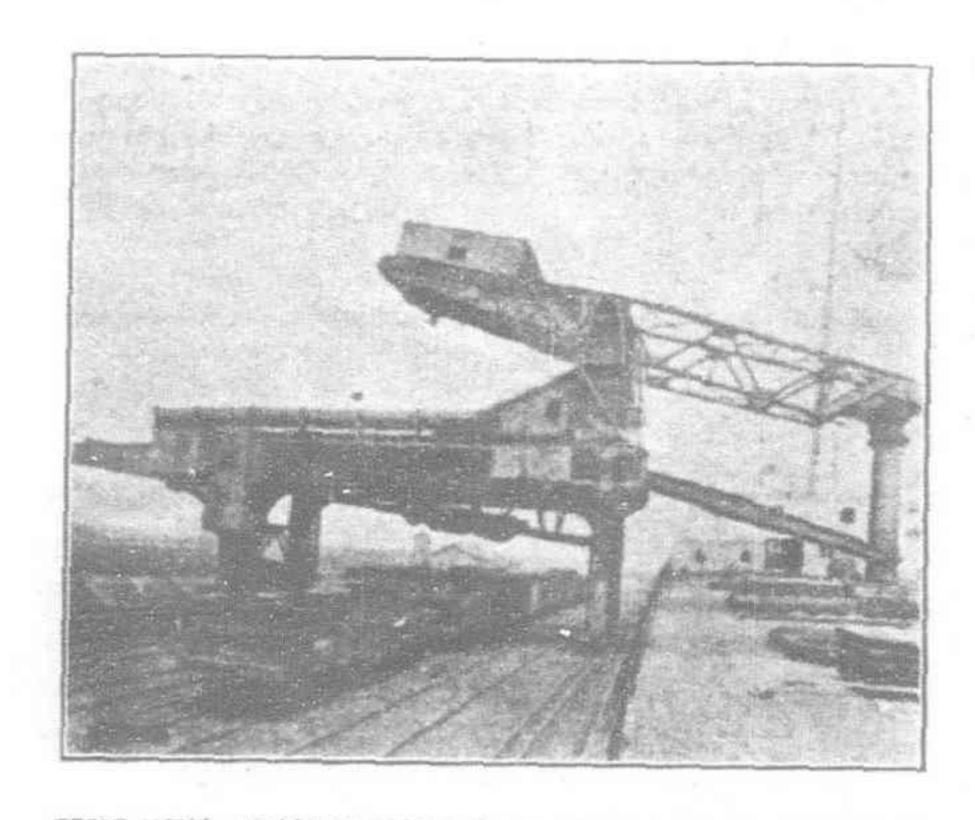
901,147.24

Balance carried forward to next

account\_\_\_\_

## A MODERN UNLOADING MACHINE

At the docks of the Pennsylvania Railroad Company in Buffalo, New York, says Commercial America, there has recently been installed by the Wellman-Seaver-Morgan Company, of Cleveland, Ohio, a Hulett Automatic Ore Unloader which, on account of its large capacity and some of the details of its construction, is remarkable. The grab bucket of this machine has an average capacity of ten tons gross of

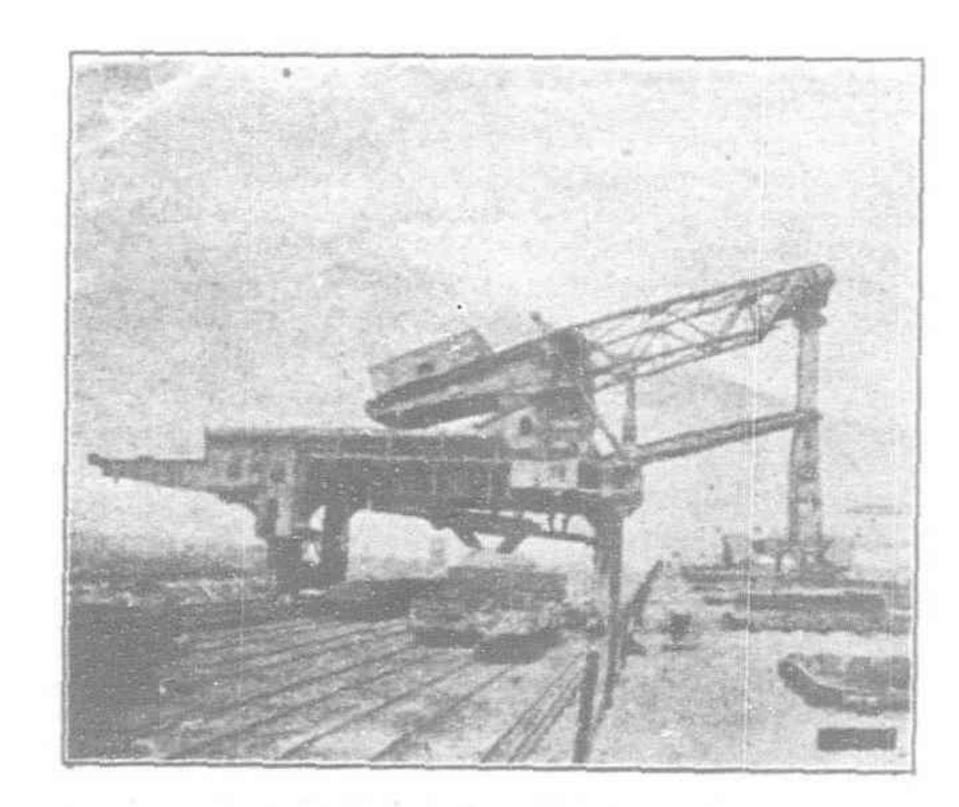


HULETT AUTOMATIC ORE UNLOADER READY
FOR WORK

iron ore and the spread of the bucket under ordinary circumstances is 18 feet. By use of a telescopic motion this spread can be considerably extended, enabling it to cover a large area in the hold of a steamer. In this way it can be made to reach more than half way over the center of one hatch to the center of another hatch on the steamer when these are spaced 24 feet on center.

The grab bucket is carried at the end of a vertical dependent leg suspended from a walking beam which may be raised or lowered as desired. The bucket leg is mounted at the top on trunions so that the bucket may be rotated while operating in the hold of a boat and in this way it is possible for it to reach out in any direction. The walking beam in turn is so mounted that it may be carried out over the hold of the boat and back again over the dock at will.

In operation the grab bucket discharges into a special bucket car or traveling hopper provided with folding chutes for discharging the ore, either into railway cars or into the storage pit at the back of the dock. This bucket car travels back and forth as required and is automatically discharged upon reaching the desired dumping point.



HULETT AUTOMATIC ORE UNLOADER AT WORK IN THE HOLD

The unloader is operated by electric motors receiving current through sliding contacts. The motor for opening and closing the bucket has a capacity of 85 h. p.; that for hoisting the walking beam 150 h. p.; and that for traveling in and out 50 h. p.; while the special one used for operating the bucket itself and for moving the machine has a capacity of 75 h. p.

One of the cuts presented herewith shows the machine with the grab bucket open and the chutes of the bucket car in position for discharge. The other shows the position of the walking beam when the unloader leg and bucket are at work in the hold of the boat and when the chutes of the bucket car are closed.

## EXPORTS AND IMPORTS OF THE STRAITS SETTLEMENTS

The report of the exports and imports of the Straits Settlements for the last quarter of 1906 has just been issued by the Straits government and contains much valuable information on the growth of trade in that important section of the Far East. According to the statistics furnished the total value of merchandise imported during the quarter exclusive of treasure amounted to \$82,697,478 or £9,648,038.

The sterling rate has been calculated at 28. 4d, for this quarter, as compared with 28. 2d, for the corresponding period in 1905. The returns for the last mentioned quarter were \$81,687,403 or £8,849,465. Thus it will be seen that the increase was \$1,010,075 or £798,573, but any comparison in sterling is not strictly applicable to goods which have their origin in silver currency countries.

Singapore imports rose from the comparative quarter in 1905 from \$58,775,173, or £6,367,308 to \$59,604,312 or £6,953,837.

The Penang returns were: For the 1906 quarter, \$21,864,287=£2,550,832. For the corresponding three months of the previous year \$21,807,779=£2,362,508.

Malacca imported in last year's quarter \$1,228,879 = £143,369. For the same period in 1905 the imports were \$1,104,451 = £119,649.

The only imports for Singapore that showed an increase was under the heading of 'raw materials," which expanded from \$20,729,842 or £2,245,732 in the last quarter of 1905 to \$23,413,133 or £2,731,532, in the three months under review. Under 'live animals, food, drink, and narcotics' the imports for the last quarter were \$23,413,133 = £2,731,532, as compared with \$20,729,842 = £2,245,732 in the corresponding period of 1905. The 'manufactured articles' entering the Southern Settlement fell from \$14,676,952, or £1,590,002 in 1905 to \$13,410,282, or £1,564,533 in last year's quarter.

The returns for Penang show that there only was a decrease in the imports of "raw materials," the figures being \$11,136,452=£1,206,448 and \$10,306,776=£1,202,456 during the last quarters of 1905 and 1906, respectively.

In the last quarter of 1905, the value of live animals, food, drink, and narcotics brought into Penang was \$6,680,023, or £723,669; and the figures for the corresponding period of the following year show an increase of \$227,260 or £72,847.

The value of imported manufactured articles expanded from \$3,991,304 or £432,391 in the fourth quarter of 1905 to \$4,730,228 or £551,860 during the corresponding three months of last year.

The imports into Malacea in "manufactured articles" show a shrinkage of from \$214,860 or £23,276 in the last quarter of 1905 to \$186,790 or £21,792 during the same period of 1906. This decrease is probably due to the completion of the railway. There was a great increase of "raw materials" entering the Settlement. It was nearly double—the figures for the 1905 quarter being \$67,156 or £7,276, as compared with \$113,167 or £13,203 during the quarter under review. Malacca received live animals, food and drink, and narcotics valued at \$822,435 or £89,097 during the last three months of 1905, and in the same quarter of last year to the value of \$928,922 or £108,374.

The import of opium (Benares), which amounted to \$2,333,775 in the 1905 quarter, fell to 1,933,750 during the corresponding months of last year.

Coming to exports, we find that the total value, exclusive of treasure, for the whole period under review, amounted to \$75,771,937 or £8,840,059, showing an increase of \$5,383,393 or £1,214,635 over the 1905 quarter. For Singapore, the returns for the last year's and the preceding year's periods were respectively \$51,625,718 or £6,023,001 and \$48,978,787 or £5,306,034. Penang exported merchandise valued at \$20,429,877 or £2,213,236 in 1905, while the figures for 1906 are \$23,135,691 or £2,699,195.

Malacca sent out goods valued at \$1,018,258 = £117,863 in the 1906 quarter, as against \$979,880 or £106,154 during the same months of the previous year.

The exports from Penang of live animals, food and drink, and narcotics increased from \$6,945,186 = £752,395 during the last quarter of 1905 to \$7,400,077 = £863,342 in the corresponding months of last year.

The value of raw materials shipped from Penang during the last three months of 1906 came to \$13,229,811 = £1,543,478, an expansion as compared with \$11,776,461 = £1,275,783 in the same period of the previous year.

The export of manufactured articles from Penang during the fourth quarter of 1906 amounted to \$2,506,073 = £292,375, an increase of \$797,843 = £17,317 on the same period of 1905.

One very interesting item was an increase of nearly three millions dollars in the value of the export of metal from Singapore— the actual figures were \$12,299,995, or £1,435,000, for the 1906 quarter, against \$10,444,275 or £1,131,463 of the preceding year's same three months. Tin alone showed an increase of \$2,860,671, and for Penang \$887,833 over the figures for the 1905 quarter.

The report throws some light on the increase of the rubber industry, for it may be mentioned that Para rubber exported from Singapore doubled in value—rising from \$230,680 to \$520,720. Penang shows a remarkably larger proportional increase, as in the 1905 quarter the export was only \$44,230, but during the corresponding period of 1906 it rose to \$207,333.

Malacca shows \$13,800 for the quarter under review against \$8,300 for the corresponding months of 1905. The total exports of Para rubber from the Colony has risen from \$283,210 to \$741,853 for the last quarters of 1905 and 1906, respectively.

No Rambong rubber was exported from the Colony during the quarter of 1905, but in that of 1906 Singapore alone sent out some valued at \$2,000.

The export of opium (Benares) from the Colony during the last quarter of 1906 amounted to \$1,586,614, having fallen from \$2,088,892, the value during the corresponding period of the previous year.

### THE OTARU LUMBER CO., LTD.

The development of the lumbering industry in Japan has attracted wide attention and no company has met with the success that has attended the enterprise of the Otaru Lumber Co. In this connection, the address of Man-

on the subject, and the conclusion attained was to the effect that, in consideration of the rapid changes now being witnessed, it was most appropriate to strengthen the position of the Company. The importance of converting lumber into a marketable shape was not by any means neglected, and at the same time the advantage also of speedily transporting such bulky commodities to different localities, and avoiding as much as possible the too large accumulation of stock at any particular point was considered to its fullest extent. To do this effectively, the only course was to do the transporting ourselves by purchasing steamers specially adapted for such purposes, and this it was decided to enforce, as we were more or less at the mercy of the shipowners when negotiating for the ship-

competition it was deemed advisable to purchase 50 per cent. of the stock of the Japan Anti-Decomposition Wood Co., Ltd., of Tokyo, and for this purpose two-thirds of the paid-up capital was appropriated with the explicit understanding to have the interests of our Company fully represented in the Directorate of the said concern. To Baron Shibusawa are due the negotiations which made it possible for us to connect ourselves with the Company in question, and it may interest you to know that this enterprise was originally founded by such well-known capitalists as the house of Prince Mori and Mr. K. Amenomiya, and the same subject was first brought to our notice through the latter gentleman, and subsequently perfected by our Adviser who is no other than the Baron,



REPRODUCTION OF LAUAN. THIS BED OF SEEDINGS IS IN A SHADE DENSITY OF ABOUT 0.75

meeting, in which he reviewed in a most intelligent manner the work of the company and its prospects for the future, will be of interest. He said:

"I am glad to say that the confidence placed by the general public in the future of this Company at the time of the organization has been more than realized, and while the dividend the last term has been cut down to 15 per cent., the accrued profits of more than yen 34,000 during its short operation are sufficient to cover the increase of the said ratio to 40 per cent, should be so desired. It is no wonder that the shareders should have moved to increase the capital yen 1,500,000 to yen 6,000,000, the reason assigned being the advisability of enlarging present plant in such a way as to make it Possible to cope with the almost unlimited mand for lumber in the future. The desire strongly advocated by the shareholders was Still sequently discussed at the Directors' Meetand the Adviser of the Company (Baron Sibusawa) was also invited to express his views

ment of our production from other than well-known ports of Hokkaido. The next step in importance was to improve the loading facilities at Otaru in order not only to reduce cost of loading to the minimum, but to effectively connect our various sources of supply with the disbursing medium. With the supply thus assured the consuming market has by no means been overlooked, and it has been wisely decided to establish lumber yards in Tientsin, Shanghai, Hankow and other important points in China. In view of the resolutions passed by the shareholders, and in which the Board of Directors entirely concurred, three steamers of about 3,000 tons each have already been purchased, and one or two others are still under consideration. The purchase of land also, to the extent of 10,000 tsubo, the installation of a 400 H. P. electric plant to be generated from the refuse of the mill, the petition for the laying of a tram line between the plant and the pier have all been attended to, and the last is now in the hands of the proper authorities. In order to safeguard against any unusual

"Regarding the actual operations in the future, the immediate result of what is commonly known as their winter term covering the intervening months between November and April or May the following year, include 1,500,000 sleepers, and 4,500,000 cubic feet of lumber, and of this lot 600,000 pieces of the former and 130,000 cubic feet of the latter have already been concentrated in a convenient locality, and with marked symptoms of a large demand in the near future a prosperous year is almost assured. Of sleepers, 1,200,000 pieces have already been booked, and of this quantity about one-half will be exported to Mexico, and the other half to China, and although the sales of lumber so far do not exceed 700,000 cubic feet, the comparative smallness can be easily explained. As a matter of fact at least 150,000 cubic feet will be required to feed our own mills, and with the prospect of an increasing demand the seemingly large stock will be reduced in a considerably short time.

"To turn to the important item of profit and loss, the prices at which the sales have been so far

closed are much higher than at first estimated and the accrued gain of yen 352,800 will not only provide for declaring a dividend of 15 per cent. on all the paid-up shares of the original capital of yen 1,500,000, and on one quarter or yen 1,250,000 called in of the new shares, but will also leave a comfortable margin to be carried over to the next account.

"Moreover, this estimate does not include the operations during the so-called summer term, and other profits such as must be derived from our own mills and miscellaneous sources are entirely overlooked, and when all these items are added on to what has already been earned surely the total must produce a most satisfactory result.

"The forest area available in Hokkaido exceeds 4,000,000 cho, and the yearly lumbering of nearly 200,000,000 cubic feet cannot materially reduce its productive power, as these figures are based on the alternate cutting system extending over a period of one hundred years, and which is ample time for the full growth of the trees that are to replace their predecessors. Needless to say the calculations are all the result of years of study and personal experience devoted to this industry, and the more we go into it the more are we convinced of the very bright future before us in Hokkaido."

## FIREWORKS WITHOUT FIRE

The Electric Steam Color-Scintillator, a recent novel invention, promises to supersede by electrical displays the old time fireworks and eliminate many of the dangers connected therewith. It is an invention of an illuminating engineer in Lynn, Mass., and is described in the Western Electrician (Chicago) as follows:

"This device consists of a bank of powerful naval electric-light projectors or search-lights, arranged in such a manner that the rays of light can be projected in any desired direction on jets of steam, which are emitted from a series of iron pipes located at a suitable distance and elevation from the projectors. These projectors vary in capacity and are of different sizes, varying in diameter from about 12 to 30 inches. The former are directed so as to illuminate the jets of steam where they issue from the pipes, while the larger projectors are pointed upward and cast their light upon the great banks of rolling steam, extending like a canopy above the jets. Mounted in front of each of the projectors are large rotating gelatin screen-disks of various colors.

"The steam is generated in a portable steamboiler of any desired capacity, set about 50 or 100 feet from the projector platform, this distance, however, depending upon the relative elevation of the steam-nozles to the projectors. The steam is forced through ordinary iron pipes of sufficient strength to withstand about 50 to 75 pounds pressure per square inch, which are placed near to or directly over the boiler, to which they are connected in such a manner that the steam is forced through several openings or nozles. Some of these nozles are inserted in vertical and horizontal pipes, which are stationary while others are placed on a circular structure of pipework arranged to revolve by flexible attachment. All of them, however, are located on the extreme top of the structure, and above the steam-boiler.

"Objects can be made to appear or to disappear almost instantaneously, while, on the other hand, they can be made to appear as the dawning and fading, in a most ethereal manner. This can be appreciated while observing a great American flag about 50 feet square subject to these changes. It is expected that flags of every nation will be exhibited this year at the Jamestown Exposition in this novel manner. The successful operation of this device depends largely upon the artistic taste and originality of the operator, for the way in which the colors blend with and succeed one another is due to the operator's skill.

"The most necessary operating condition is a clear atmosphere. From the viewpoint

of outdoor illumination, this device may be regarded as entirely unique; and it will probably be the most admired of all the illuminating attractions at the Tricentennial Exposition, at Jamestown, Va.

"The beauties of these superbly lighted banks of clouds will be enhanced by the fact that the eyes of the spectators will be shielded from the glare of the arc and other lamps. All the arcs and the 200,000 incandescent lamps will be hidden from view, and the exposition will appear as if lighted from some unknown source."

#### THINGS JAPANESE

BY WALTER J. BALLARD.

The largest dock in Japan is at Nagasaki, 728 feet; the next is at Yokohama, 552 feet, and the third largest is at Hakodate, 534 feet. The floating dock at Nagasaki is 412 feet long and is capable of floating a dead weight of 7,000 tons. Another and larger floating dock is now being built by the same company.

Shipbuilding in Japan employs 10,000 men at Nagasaki, 8,000 at Kobe and 4,000 at Osaka. All three yards are more than full of orders.

The Nippon Yusan Kaisha (Japanese Steam-ship Company) is now in strong competition with foreign steamers on the Swatow-Bangkok line, the Shanghai line, the Australian line and the Shanghai-Hankow (China) line.

Subsidies are given by the Japanese government on all ships constructed in Japan for the Japanese. The total amount allowed this current fiscal year (March 31) is \$361,350. The amount is not large, but persistence in that plan has given Japan what the United States lacks—an ocean-going merchant marine.

At the end of 1905 Japan had 939,000 tonnage in merchant steamers and 336,000 tonnage in merchant sailing vessels, a total of 1,275,-000 tons, or 298,000 more tonnage than at the end of 1903.

Amoy, China, continues to lose the Formosan tea trade with the development by Japan of Keelung Harbor, and making that the tea port of Formosa. The ultimate object is to make Keelung Harbor accessible to large trans-Pacific steamers. The Japanese have driven British ships—three steamer lines—entirely out of the Formosan trade.

The number of Chinese becoming Japanese subjects is surprising. Japanese Consuls in China have the power to confer Japanese citizenship upon Chinese subjects. In the Chinese treaty ports there are 729 Japanese business houses and 16,910 Japanese. They outnumber Americans there nearly five to one.

The Nippon Yusan Kaisha is having built six steamers for the Australian trade, four of which are of 8,500 tons each; three of 3,500 tons each for the Kang-tse service and two of 2,700 tons for use between Japan and Shanghai.

The Shogyo Shimpo, one of the largest newspapers in Japan, prophesies that in a few years Japan will practically supply China with all the merchandise she imports. The increase in Japan's China trade is ascribed by The Shogyo Shimpo to the aid given the merchant marine of Japan. The paper uses the declining American merchant marine as its "horrible example" of national neglect.

Special Agent W. A. Graham, clerk of the Bureau of Manufactures, reports that there is an excellent opening in Japan for the sale of power looms.

Japanese thrift continues. Savings bank deposits December 31, 1905, were \$16,500,000 less than July 31, 1906. That much gain in only seven months evidences thrift. In the same period bank loans increased only by \$7,000,000.

In the nine months ended September Japan's export of gold increased \$2,500,000, her imports of the precious metal increased \$8,250,000, a gain of \$5,150,000.

When Japan after the war with China, says The Anglo-Japanese Gazette of London and Tokio, took possession of Taiwan (Formosa), the means of transportation on the island were most primitive, but three years later sixty miles of railway had been opened for traffic, carrying in 1898 265,000 passengers and 23,000 tons of merchandise. By 1905 the mileage was 232 miles, carrying 1,144,700 passengers and 350,000 tons of freight, with receipts amounting to \$556,000 a year.

In the first half of this year the net profits of the Yokohama Specie Bank were \$6,235,000, against \$4,961,000 in the last half of 1905, an increase of \$1,274,000.

The Bank of Japan has five times as much cash on hand as its entire capital stock, the figures being \$15,000,000 and \$75,000.000 respectively. This is the bank which takes care of the Japanese government's finances.

Kobe Harbor, Japan, is to be greatly improved, with four jetties (one 1,620 feet long and 360 feet wide) roofed and equipped with electric lights, 130 cranes and twenty-two miles of railway, connecting the jetties with the existing lines, about 110,000 tsubo of land reclaimed from the sea, other jetties, a 3,240 foot breakwater and a three-mile railway for Chinese and Corean shipping.

In 1903 Japan imported \$500,000 worth of boilers, in 1904 \$850,000 worth and in 1905 \$1,315,000 worth. The United States and England made nearly all the sales.

Osaka has seventy factories making buttons, with yearly exports thereof amounting to \$500,000.

## JAPAN'S FORMOSAN TRADE

The economic relations between the Japanese mainland and Formosa are steadily becoming closer, says The North China Daily News. Exports to foreign countries from Formosa decreased in 1906 to Yen 9,000,000 against Yen 10,000,000 in 1905 and Yen 12,000,000 in 1904. But exports to the mainland from the island increased last year to Yen 18,000,000 from Yen 10,000,000 in 1904 and Yen 13,000,000 in 1905. On the other hand, imports to the island from foreign countries stood at Yen 12,000,000 in 1906, against Yen 12,000,000 in 1904 and Yen 10,000,000 in 1905, in round numbers, showing a fractional decrease. But imports from the mainland aggregated in 1906 Yen 15,000,000, against Yen 10,000,000 in 1904 and Yen 13,000,000 in 1905. Thus the volume of exports and imports between the mainland and Formosa is increasing at the cost of that between Formosa and foreign countries. In this respect, Formosa may be styled a channel for the purchase of food stuffs and raw materials for the mainland and an excellent customer of manufacturers of the mainland. As to transactions of Formosa with foreign countries, exports to China are of a downward tendency. But China continues to head foreign countries. Formosa's exports to China in 1906 were a little less than Yen 5,000,000 and imports from China a little above Yen 6,000,000. Exports in February amounted to Yen 33,421,563 against Yen 26,487,048 in the corresponding month of 1906. This makes the total from January of Yen 61,793,485 against Yen 51,-470,231 in 1906. Imports during February stood at Yen 37,976,983 against Yen 32,079,537 in the corresponding month of 1906, making the total from January Yen 78,332,158 against Yen 66,302,856. Exports during the first ten days of March amounted to Yen 10,082,000 and imports to Yen 14,312,000, keeping up an excess of imports by Yen 423,000. This excess from January now comes up to Yen 20,819,000. An efflux of gold and silver from January till March 10 is put at Yen 1,000. The displacement of incoming Japanese vessels during January and February is 1,337,626 tons and that of foreign vessels 1,764,922 tons, making the total of 3,102,548 tons, against 2,386,598 tons in the corresponding two months of 1906.

## AMALGAMATION OF SIAM RAILWAYS

The Tachin Railway and the Meklong Railway in Siam have amalgamated. This was agreed upon at the half-yearly meeting of the directors of the Tachin Railway held recently the report of which follows:

The ninth half-yearly meeting of the share-holders of the Tachin Railway Co., Ltd., took place at the Company's office, Klong Kut Mai, Phya Phipat Kosa, Chairman of the Board of Directors, presiding. There were also present Messrs. J. Mackay, C. Sandreczki, C. Kramer, C. S. George, (Directors), V. Gedde, Ch. Sommer, E. Florio, A. Barnholdt, V. Henriksen, F. Stew-

On motion of Mr. Mackay, seconded by Mr. Gedde, the balance-sheet and Directors' report were adopted.

#### NEW DIRECTORS

The old Directors were all re-elected and the two vacancies referred to in the report were filled by the election of Messrs. L. T. Leonowens and A. Lessler.

There was no other business before the meeting and the third annual meeting of

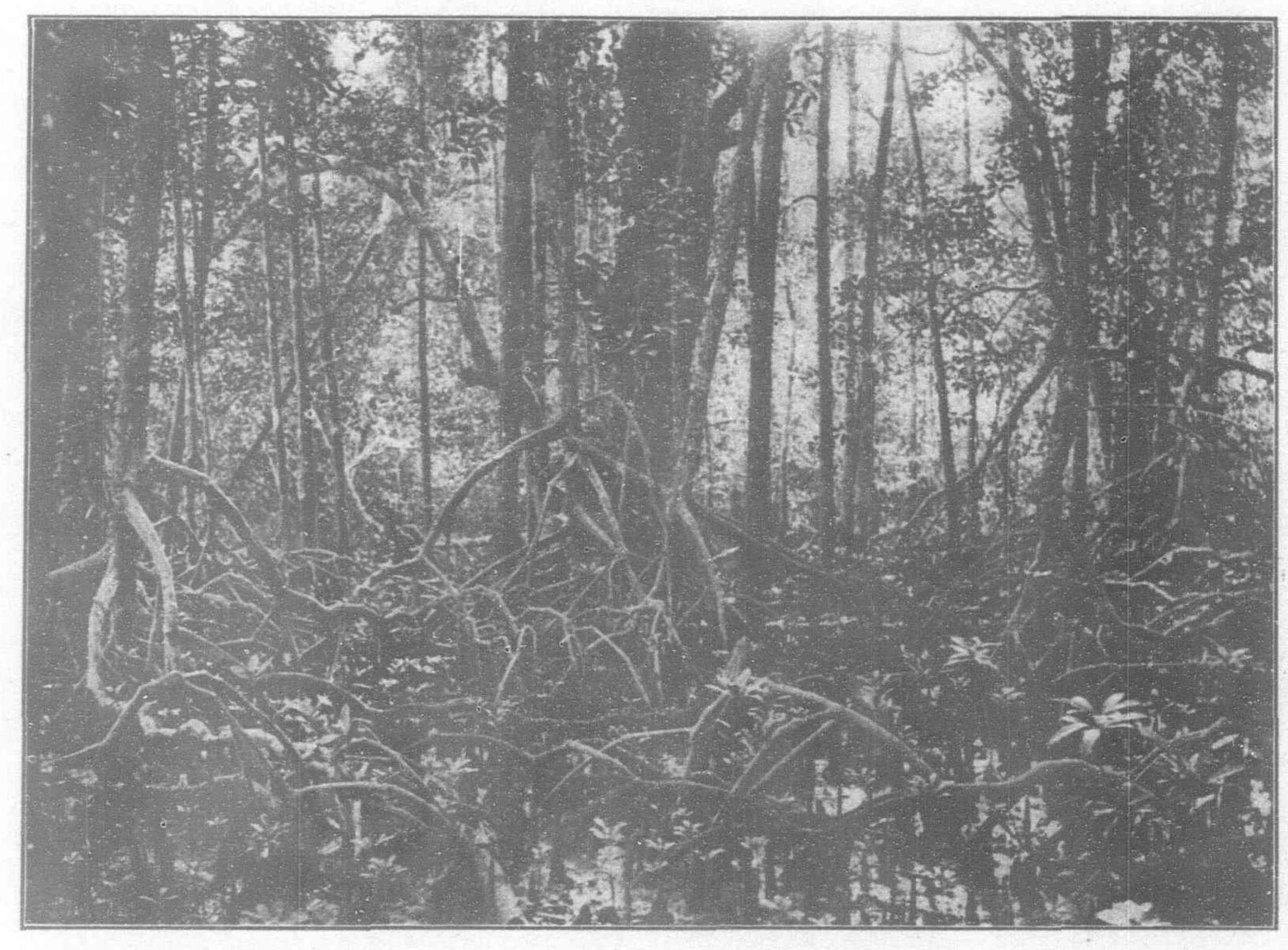
THE MEKLONG RAILWAY CO.

was then held, Phya Phipat Kosa presiding. In addition to those already named there were and for every 100 Tachin shares 125 new shares should be given in exchange.

The Chairman pointed out that the new shares could not be issued until the opening of the Meklong railway.

#### UNION INSURANCE CO. OF CANTON

The thirty-fourth ordinary meeting of the Union Insurance Co. of Canton was held on April 13. The report states that the board has now to lay before the Shareholders a summary of the property and liabilities of the Society on the 31st December, 1906, and a statement of accounts to the same date. 1905 Account.—After payment of the interim dividend of \$30 per share and the bonus of 20% to Contributors passed at



INTERIOR VIEW OF A MANGROVE SWAMP. THE LARGE TREE IS PAGATPAT. THE TREES WITH PROP ROOTS ARE BACAO (Rhizophora conjugata).

art, G. Salvatore, D. McGlashan, W. S. Smart, W. Muir, Swanson, H. Hooker, Phra Ranta Chakar, with Mr. A. Bachfeld, acting secretary.

After the minutes of the previous meeting were read and confirmed the Directors' report for the half year ending December 31st, 1906, was submitted.

The report after noting that the accounts had been audited went on to state:-

"The net profit for the period, after deducting from gross revenue all expenses and the sum Ticals 24,838.49 for depreciation, concession redemption, sinking fund, debenture interest, cle., is Ticals 36,194.77. Your Directors recmmend that a dividend of 3½ per cent, for he six months be declared, thus absorbing Ticals 800—and the balance, Ticals 5,394.77 be carforward. The work of relaying the permanent with additional sleepers proceeds and about o-thirds of the length is finished. We are d to note a steady increase in the receipts have every reason to believe this will be intained. According to the Articles of Asall your Directors now resign, but themselves for re-election, except Mr. Kinch and Mr. J. McEwen, who have returned to Europe."

also present Messrs. T. M. Upton, T. Judge, L. T. Leonowens, J. Boeck and K. Brehm.

The Directors' report up to Dec. 31st, 1906, stated:

"The work of construction has proceeded satisfactorily and we may confidently expect to open the line within the contracted time. The rolling-stock has all arrived and is in use by the contractor. The last call has been made and share certificates issued."

The report was adopted.

The meeting then proceeded to consider an offer of amalgamation made to the Company by the Tachin Railway Co.

The Chairman said he hoped the meeting would accept the offer, which he considered a very good one. The amalgamation if agreed to would come into force on the date of the opening of the Meklong line. The construction of the line was so far advanced that he thought they would be able to open at the beginning of June, although really the contract time did not expire until August.

It was then moved and agreed to that the offers of the Tachin Co. be accepted, the basis of amalgamation being that every holder of 100 Meklong shares should receive 101 new shares,

the last annual meeting, there remains a balance of \$385,290.64 as per annexed statement. The Board recommends that this sum be appropriated as follows:—A final dividend to shareholders of \$12 per share on 10,000 shares \$120,000.00. An addition to the Sterling Reserve Fund of £30,000 at exchange 2[3 3-16 \$264,827.59 To be carried forward to Underwriting Suspense. Account to close the account for the year 1905 \$450,463.05—\$835,290.64.

The balance of Working Account on the 31st December, 1906, was \$2,082,490.31.

The Board recommends that an interim dividend of \$30 per share be paid to shareholders out of interest, absorbing \$372,000, and that a bonus of 20 % be paid to contributors, absorbing about \$250,000, and that the remainder be carried forward.

All the 2,400 new shares have now been issued. The shares in the China Traders Insurance Company, Limited, acquired by the Society have been valued for the purpose of the balance sheet at \$90 per share and the profit accruing on this valuation has been treated as premium on the new shares issued in exchange for them. The new shares rank pari passu with the old shares of the Society for the final dividend on 1905 account as well as for the interim dividend on

1906 account and the final dividend thus paid on these new shares will be charged against the premium on the new shares. After allowing for this final dividend the balance of the premium on the new shares amounts to \$1,230,688.14 which sum the board has applied as follows:-Transferred to silver reserve fund \$1,000,000.00. Transferred to investment fluctuation account \$230,688.14.

## SIBERIAN RAILROAD DURING THE WAR

The Russian official journal has recently published statistics of the traffic of the Siberian Railroad during the Japanese war. The railroad had been opened through to the Pacific at Dalny but a short time before the war broke out, and so was only beginning to have a through traffic, which, of course, was then entirely interrupted. It had had, however, an important immigration traffic, and on the western divisions a very considerable grain and dairy traffic.

The whole number of passengers in the three years ending with 1905 were:

Passengers:	1903.	1904.	1905.
First class Second class Third class Fourth class Immigrants	7,000 62,300 409,400 455,300 142,600 2,300	5,900 70,100 448,400 240,500 33,300 2,203	5,500 74,000 471,500 172,300 30,400 1,800
Stock attendants Soldiers-1st, 2d and 3d class	101,700	939,100	1,077 900
Prisoners and their guards	100,100	18,200	13,100
Total	1,280,900	1,757,800	1,846,300

Thus the total number of passengers increased 37 per cent from 1903 to 1904 and 5 per cent from 1904 to 1905, but subtracting the military travel the number of other passengers decreased from 1,180,800 in 1903 to 818,700 in 1904 (30 per cent) and to 768,400 (7 per cent) in 1905. The through travel, largely first class, but always very small, came to an end with the war. Even in 1903 there had been only nineteen first-class passengers per day on this line of 4,000 miles. The second and third class passengers continued to increase, there being a movement of army attendants and surveyors largely exceeding what otherwise would have traveled west of Lake Baikal, but the fourthclass travel fell off 47 per cent from 1903 to 1904 and 28 per cent from 1904 to 1905. This travel is chiefly of laborers going from one place where work is to be had to another, in European Russia chiefly men employed in harvesting, who move north as the crops ripen. The reduction in the movement of prisoners, which seems frightfully large in 1903, was due largely to the cessation of banishment to the island of Saghalien, opposite the mouth of the Amoor.

The movement of troops naturally is the great feature of this period. No less than 939,000 soldiers were carried in 1904 and 1,-178,000 in 1905. It must not be supposed that so great a number of different persons were carried. Aside from transfers from one place to another in Siberia, there is always a large movement from any army back toward the home of the soldiers, and in 1905 the larger movement must have been in carrying the bulk of the army back from Manchuria to Russia, which was chiefly but not wholly effected in that year. The movement of freight in this period increased greatly in most of the items which are reported, but these do not enable us to distinguish between what we may call the normal freight of the country and that due to the war. Of that carried by freight trains, the quantities, in tons, average as follows:

	Tons.		
	1903.	1934.	1905.
Military freight Private freight Service freight	4,892 1,182,581 1,751,808	406,179 1,242,270 1,938,280	583,470 1,452,740 ,393,143

It is probable that in the aggregate the whole of the increase in what is here called "private freight" was due to the shipments of stores to be sold to the army, but the most notable fact in the statement is that the "service freight" —the supplies carried for the use of the railroad itself-exceed in amount the military and paying civil freight put together. Coal alone must have formed a very large part of this service freight.—Railroad Gazette.

## DUTY ON MOTHER-OF-PEARL

The Board of United States General Appraisers on January 16 overruled a protest filed by Adolph Kastor & Bro., of New York, regarding the rate of duty on mother-of-pearl slabs cut or ground in various sizes and designs for use in the manufacture of handles for knives. button hooks and similar articles. Duty was exacted at the rate of 35 per cent under the provision in the tariff law for "manufactures of pearl." This return was objected to by the importers who set up a number of claims, among them being that the pearl should be deemed as not manufactured or advanced in value, and therefore free, or else that they be returned for duty at 10 per cent as enumerated unmanufactured articles, or else at 20 per cent as manufactured articles. The assessment at 35 per cent is affirmed.

The board sustained a claim filed by the Strauss-Samish Millinery Co., of St. Louis, it being held that the Custom House officers have no right to exact duty on samples of imported merchandise. The Collector is directed to reliquidate the entry,

## AMERICAN ORIENTAL CONSULATES

Washington.—More than \$1,000,000 for the purchase of proper quarters for American consulates in China, Japan and Corea is asked by Secretary Root in a communication sent to Congress to-day. The request is in line with the policy of the Secretary of State to make American consuls more respected and to establish them so they will be able to render better service in extending American trade.

The amounts Mr. Root asks Congress to appropriate are as follows: Amoy, \$8,350; Canton, \$115,000; Chefoo, \$40,000; Chungking, \$11,500; Foochow, \$6,312 Hankow, \$60,000; Hong Kong, \$155,000; Nanking, \$44,000; New Chwang \$50,000; Shanghai, \$241,000; Tien-Tsin, \$65,-000; Kobe, \$120,000; Nagasaki, \$55,000; Tamsui, \$27,300; Yokohama, \$104,493, and Seoul, \$10,000, a total of \$1,112,955.

"The conditions in China, Corea and Japan, in respect to securing suitable quarters for the offices and residences of the consular officers, differ greatly from the conditions prevailing in other parts of the world," said Mr. Root. "Buildings suitable for our purposes are not only few in number, but, on account of the needs of business men, are impossible to obtain except at a rental far in excess of that which this government is permitted to pay. At some posts consular officers have been obliged to pay considerable sums from their own pockets for rent, in order that the government might not be embarrassed in its business, or become an object of unfavorable comment. The situation has long been one of great annoyance to the government, and at times almost intolerable. It has been aggravated of late years because of the immense increase in the value of land and buildings, caused by the enterprise of commercial organizations and the action of other governments in securing large tracts of the most valuable desirable sections for their buildings."

## MALAY MINING

Dealings have recently taken place on the Stock Exchange in the shares of Tekka, Limited, a company formed to acquire tin-bearing properties in the Kinta district of the Malay States, which is noted for the richness of its tin deposits. The capital is £90,000 in £1 shares, of which 70,000 shares have been issued, and the price paid for the property is £15,000 in cash and £15,000 in shares, leaving £40,000 as working

capital. It is stated that for the issue of 55,000 shares the applications in Cornwall alone amounted to three times the number offered. As regards the prospects of the company, the report of Messrs. Osborne and Chappel, the well-known authorities on tin mining in the Malay States, gives the area of the property as 454 acres. It is proposed to work the deposits by hydraulicking in the same manner as is adopted by the Gopeng group of mines, the water to be obtained from the Raya River, under permission of the Government of Perak, by means of a ditch 33 miles long and a pipe-line of about five miles in length.

Owing to the fall of about 200 ft. between the river and the centre of the property, the company will be enabled to install an electric generating station of sufficient power to run two dredging pumps, by the use of which, together with the natural hydraulicking, the problem of dumping facilities is expected to be overcome and working costs reduced to a minimum. The physical features of the land are said to be favorable to the proposed method of working, and it is estimated that, on the basis of the treatment of 75,000 cubic yards per month, the life of the property will be at least twenty years, and the monthly profit about \$15,750, or £22,050 per annum.—Financial News.

#### MOTOR CARS IN JAPAN

The proposed establishment of the Japan Automobile Company, with a capital of -Y-10,ooo,ooo as a new scheme of public conveyance, is drawing a large amount of attention in Tokio. The popular nature of this enterprise may be inferred from the fact that no fewer than six different similar proposals have been promoted in the capital, while the Kwansai Railway Company is reported to have a scheme under contemplation to run motor carriages on its railway tracks. The six proposed companies in Tokio have now been amalgamated under the title of the Japan Automobile Company. The business will at first be confined to Tokio and neighborhood, and gradually extended to other parts. The first call on shares is to amount to -Y-2,500,000 and 200 automobiles will be bought. The first call amount to -Y-2,-500,000.

## BURMA TEAK TRADE

The output of the teak in the Burma forests during 1905-6 was 223,080 tons as against 218,466 tons in the preceding year. Of the total 86,702 tons were extracted by Government agency, an increase of 9,000 tons on the figures of the preceding year, and 136,378 tons by purchasers, a decline of 5,000 tons from the figures of the preceding year.

The total output is equal to the average of the last ten years. There is no reason to fear, says the Forest Report, that the output of teak will again fall except in particular years owing to bad floating seasons; on the contrary, it may be expected to increase.—Siam Free Press.

## BURMA RICE FOR JAPAN

Large shipments of rice are now being made to Japan. There were in port on Sunday, says the Rangoon Gazette of the 25th ult., 34 vessels with a total tonnage of 77,940 tons registered. Of the 34 vessels 21 fly the British flag with a registered tonnage of 50,048 tons; eight German, 15,669 tons; and five Japanese, 12,223 tons.

Thirteen of the vessels were loading for Japan, which includes the five Japanese vessels referred to. The Japanese, it is said, intend sending as many as possible of their own vessels to Rangoon to take away all the rice they require.

## PROSPECTS FOR RUBBER

The latest figures about rubber give the total output for 1906 at about 75,000 tons, valued at thirty millions sterling, says the Bangkok Times. That averages the price at about 3s 6d a pound. Of the total quantity, says a home paper, 64 per cent came

from tropical America, the home of the Para rubber tree. The whole of the plantation rubber that comes on the market does not make more than 2 per cent of the world's product. Many people are trying to invent a substitute, and many more are investing money in new plantations, but every year sees a greater demand, and it is estimated that in ten years' time the consumption will be double what it is to-day. The latest proposal is to use it for street paving, as rubber pavements have been found a success. In any case rubber planting provides an opening for investment in an industry where over-production is not to be feared, and it is to be hoped that the number of plantations in Siam will go on increasing.

## SOUTH AFRICAN TRADE NOTES

The following items of commercial interest are published by the British and South African Export Gazette.

Last year ordinary cycles were exported from the United Kingdom to South Africa to the value of \$700,000 and motor cycles to over \$40,000.

Given favorable conditions in the money market the Cape government will shortly issue a large loan, chiefly for use in new railway construction.

A demand for looms in the Orange River Colony may be created if the scheme of Miss E. Hobhouse for teaching weaving to the Boer women proves a success.

There would appear to be a good market in South Africa for cheap stoves, fitted with ovens, to compete with the Swedish makes now almost monopolizing the market.

Kaffirs in many districts still winnow their corn by beating it with sticks and throwing it into the air. A simple corn sheller would doubtless sell well if properly introduced.

It is expected that the construction of the Congella wharf at Durban will induce timber firms to forward nine-tenths of their consignments through Durban instead of Delagoa Bay.

For the first time the British Board of Trade is offering a service of confidential information to British firms relative to their respective trades, and has opened a register for that purpose, reserving discretionary rights in regard to enrollment thereon.

The imports of boots and shoes into South Africa during 1905 are estimated at over \$5,-000,000; saddlery, \$500,000, and other leather purchases about \$400,000, all increases over 1905. Unmanufactured leather to the value of \$750,000 was also purchased, chiefly from the United Kingdom.

During 1905 cotton piece goods were shipped from the United Kingdom to South Africa to the value of over \$4,800,000, or \$900,000 in excess of the amount for 1905. Dyed goods showed an increase of 28 per cent; printed goods, 25 per cent; unbleached goods, 24 per cent, and bleached goods, 9 per cent.

Motor cars to the value of nearly \$300,000 were shipped from the United Kingdom to South Africa during 1906. It is noteworthy that a car on general touring lines is most suitable in such a district as the Rand, but for use on the veld, special features, such as extra strong springs and well-raised bodies, to provide for the negotiation of spruits, are essential.

The increased demand for Australian jams is to be noted, a result of the customs preference granted and the decline in the importation of chilled meat. Frozen butter, however, seems to be in greater favor, while the recent scare in regard to margarine, which is very largely used by hotels and restaurants for cooking purposes, has lost much of its force. Throughout South Africa a set is being made against the adulteration of foodstuffs.

### NO FOREIGN TRAMWAYS OUTSIDE SHANG-HAI SETTLEMENTS WITHOUT CONSENT OF CHINESE

A telegram to the North China Daily News announces that the Waiwupu has been noti fied by Viceroy Tuang Fang of the construction of electric tramways by British and French Companies outside the limits of the Settlements at Shanghai without the consent or knowledge of the Chinese authorities. The Viceroy states that although the Customs Taotai has applied twice to stop the work in Chinese territory until at least proper arrangements have been come to with the Chinese authorities, the reasonable request has been refused on the pretext that the building of the tramways will facilitate communications not only for foreigners but also for Chinese; also that as permission was given to a Belgian Company in 1902 to build electric tramways in the Chinese city of Tientsin, by Viceroy Yuan Shih-kai, similar permission might be given to foreign companies in Shanghai, The French- Consul General contends also that, as the Chinese authorities formerly allowed the French Municipal Council to build roads beyond Pahsienchao and Hsiachiao, the Customs Taotai has now no right to interfere; the power to grant the concession was vested in the Municipality, as the Taotai had not stipulated to the contrary when permission to make the road itself was granted. Viceroy Tuan Fang requests the Waiwupu to lose no time in bringing the question before the doyen of the Diplomatic Corps and the British and French Ministers. He adds that he has again instructed Taotai Jui to request the British and French Consuls at Shanghai to stop the work as speedily as possible, with a view to preserve the sovereign rights of China and to prevent the possibility of riots through the excited condition of the people at present. It is understood that by direction of Prince Ching, H. E. Tang Shao-yi has addressed the Diplomatic Body on the subject.

## AUSTRALIA'S TRADE

Australia's trade returns for 1906 show a total of \$572,985,115, an increase of nearly \$97,500,000 over 1904. Her revenue for the last half of the year was \$32,030,980, an increase of \$2,408,230 over the corresponding half of 1905.

In December last the population of New South Wales was 1,530,940, being an increase for the year of 34,890. The excess of births was 25,895, and the excess of arrivals from abroad was 8,995. This is the largest increase since 1891.

New Zealand's exports and imports in 1906 amounted to \$167,000,000, an increase over 1905 of \$25,000,000, the largest yet recorded. The population increase was 29,500, also the largest of record. The net gain by excess of immigrants over emigrants was 12,848.—New York Sun.

## PROSPEROUS CEYLON

There was never a time when trade in Ceylon showed such bright prospects. At a juncture when so much attention is being paid to rubber cultivation as the likely great, remunerative industry of the future, tea has once more forced itself to the front, and the absorbing topic in trade circles is the brilliant promise of the tea market. The remarkable increase in consumption of British grown tea-last year showed an increase of 23,000,000 lbs. in home consumption and exports to the colonies and foreign countries from England, while for the last four years the area of cultivation has been stationary—has created a very interesting situation. February will see the usual large crop of annual company meetings held in Colombo, and the change in the position since the shareholders last met will be startling. Last year the cry at nearly all low country company meetings was for the planting of rubber at all costs, even at the expense of the tea, and during the last few years hundreds of acres of tea have been interplanted with Para, which of course will gradually oust the older product where they have been thus intermingled. This year there will be a considerable modification in this demand. In the meantime while there has been no movement in rubber shares for a considerable time

low country companies and tea-cum-rubber shares are experiencing a distinct boom. The situation is one which is not without elements of anxiety to upcountry tea-growers, who have only one string to their bow till the increased prices for common tea bring such a rush into the market as to at once blight whatever prospects there were of continued prosperity. There are, however, several factors which lead to the belief that high averages will be the order for a long period. During the reign of low prices great advance has been made in foreign countries, especially Russia and Germany, while advertising efforts of India and Ceylon have produced the desired results in the United States, and Britishgrown tea is going more freely into that country now than ever before. On the other hand there is no prospect of the production of tea in India and Ceylon increasing to any appreciable extent, while teas from Java used for blending are still strictly limited in quantity and China shows no sign of awakening, and the most cautious students of the market prophesy that production will not overtake consumption for a long time to come. Meanwhile nothing has occurred to, in any way, dim the bright prospective future of rubber. There is nothing in the rubber market which accounts for the present stagnation. Prices are high and there is nothing to show that they are likely to come down for many years. The probability is that the declaration of large dividends by some of the best companies in the near future will once more arouse attention and there will be a greatly increased demand for shares. No real public interest has yet been aroused in England in Ceylon shares, and it cannot be expected until a larger number of companies begin to pay returns. At present the great majority of these estates have not come into bearing.

Things are quite as prosperous, if not more so, with the next most important industry in the island. The extraordinary rise in the price of copra has given it a great impetus, but the period which the coconut palm takes to come into bearing prevents the laying out of capital to anything like the extent it has been laid out in rubber. For this very reason coconut estates are likely to continue to be extremely valuable property to those who are fortunate enough to be in possession of them already, because there is no danger of over-production. This is par excellence the industry of the natives, as those who have no intention to remain all their lives in Ceylon are not inclined to invest their money with the prospect of having to wait so long for a return. The plumbago trade, which is almost entirely confined to natives, is also doing well, so that the present remarkable wave of prosperity which is passing over the island is benefiting all sections of the community.—Indo-European Commercial Intelligence.

## A MAMMOTH GERMAN LINER

The premier German shipping company has approved the plans for the construction of a vessel which shall exceed in size the Kaiserin Auguste Victoria and the Amerika, which now represent the latest developments in ocean travel. The new steamer will be called the Europe and will have a speed of 19 knots. She will carry 500 first-class, and 350 second-class, 1,000 third-class, and 2,350 steerage passengers; in all 4,250 passengers, so that with that for the crew there will probably be accommodation for 5,000 persons on board.

Among the conveniences for passengers will be a Ritz-Carlton restaurant, under the direction of the Hotel Ritz, Paris, which will be nearly twice as large as those on the Amerika and Auguste Victoria. A winter-garden and a seawater swimming bath and Turkish baths will be provided. On the topmost deck a tennis court will be marked out.

The steamer is to enter the Hamburg-New York service and will make her maiden trip in the autumn of 1908.

She is to be built by Messrs. Harland and Wolff of Belfast.

## THE NEW AMOY DOCK COMPANY, LTD.

The 15th Ordinary Yearly Meeting of Shareholders in this Company was held at the office of the General Manager at 11 a.m. on Saturday the 6th inst:—Mr. Fred. B. Marshall presided, other shareholders present being Messrs. W. Kruse, (consulting committee) B. Hempel, E. Thomas, Ed. H. Wallace, Robert W. Black (manager) & C. C. de Carvalho, secretary.

The secretary having read the notice convening the meeting,

The Chairman said: Gentlemen, the Report & Statement of Accounts having been in your hands for some days, I will with your permission take them as read. The net profits for the year's working, ending 31st December 1906, amount to \$9379.56, to this sum must be added \$1195.19 the balance brought forward from last account,

quired, more especially in wet weather. We had an unpleasant experience last year which gave your Manager and Consulting Committee considerable worry and trouble, but I am pleased to say terminated favorably for the Dock. The owners of the steam launch WoOn sued the Dock in the British Consular Court for some \$18,000.00 odd for supposed damage done to their boat and for which they wished to hold us responsible. I need not here say more than that with the assistance of our Hongkong Lawyers we defended the case, and came through without any expense to the Dock. We have now a claim against the owners for some \$5000.00 odd, but as this was to go through the Chinese Court it takes time and trouble. The British Consul is supporting our demands and we have every reason to expect our claim will eventually be met in full

The Chairman—This is all the business. Dividend Warrants will be ready on Monday.

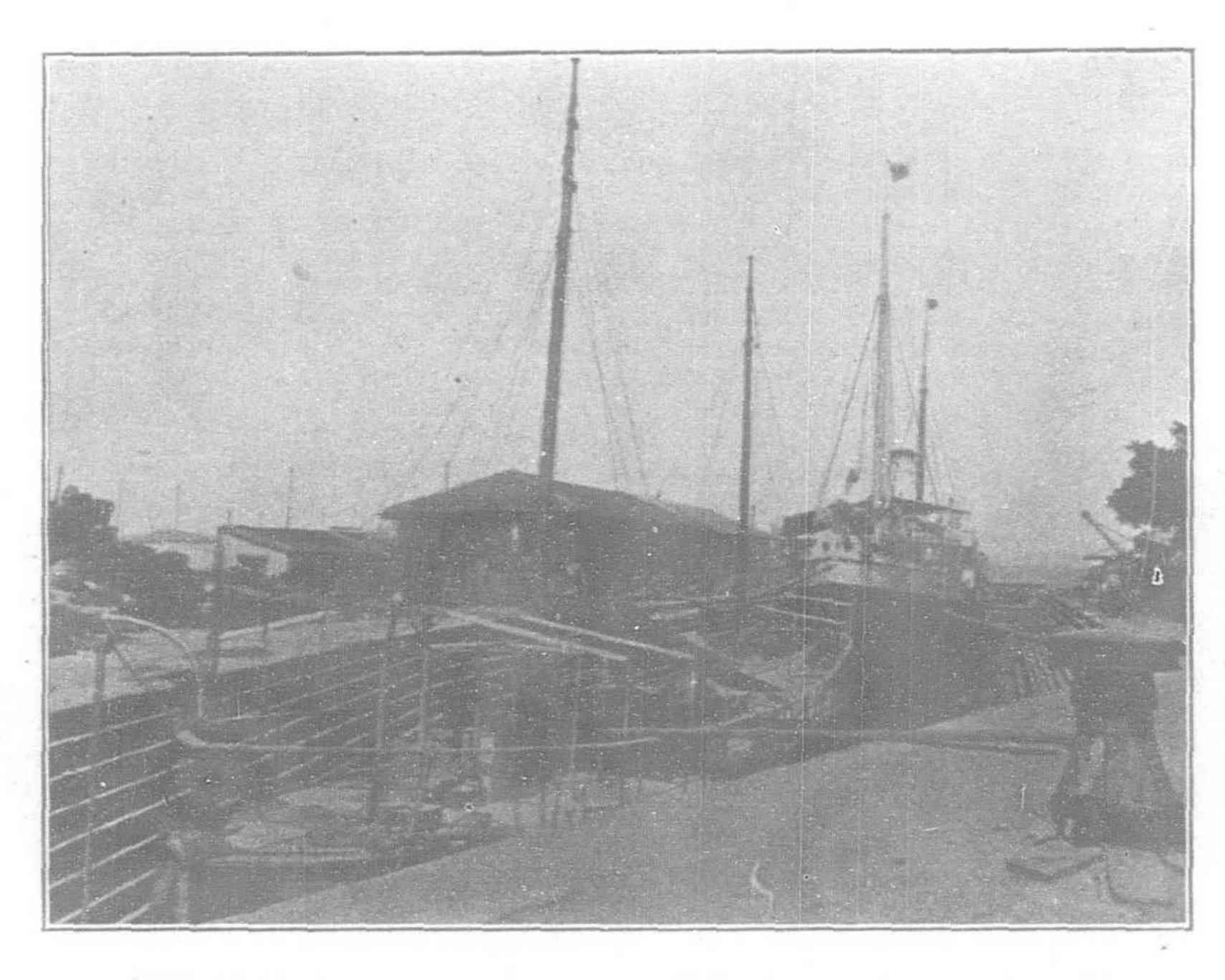
A vote of thanks to the Chairman, proposed by Mr. Thomas and seconded by Mr. Hempel, terminated the meeting.

#### BENGAL TELEPHONE CO., LTD.

REPORT.—The directors beg to submit to the shareholders a statement of accounts for the year ended 31st December, 1906.

The revenue account shows a balance to credit of Rs. 61,445-10-6, which has been transferred to profit and loss. Including Rs. 12,578-14-10 brought forward from 1905, the amount available for disposal is Rs. 69,646-15-4.

It is proposed to deal with that sum as follows: To pay a dividend of 5 per cent. which will absorb Rs. 44,000 and to carry forward Rs. 25,646-15-4.



GRANITE DOCK-THE NEW AMOY DOCK COMPANY, LIMITED, AMOY, CHINA

which totals \$10,574.75, and this sum it is proposed, subject to your approval, to deal with as follows:

Write off Amoy Dock	\$731.16
" Plant & Machinery	\$787.55
Commission & Fees to Manager	\$937.96
Fees to Genl. Manager & Consulting	

Committee \_\_\_\_\_ \$500.00 to pay a dividend of 50 cents per share absorbing \$5000.00 and to carry forward the balance, \$2618.88.

Gentlemen, I regret that we have not a more satisfactory showing for the past year's working to place before you, but work other than our regular harbor jobs, was scarce, and the disastrous typhoon that did so much damage to shipping in Hongkong in September last, did not supply us with any work. We were in hopes the Docks in the Colony would have had some overflow that might be diverted our way, and we took the necessary steps to secure any business offering; but without success. Still it is some satisfaction to report that even in a lean year such as we have just experienced, the Dock is able to pay its way and return a small dividend to Shareholders. The business we have had during the past twelve months can be looked upon as regular and likely to be continued from year to year, and probably increased as new oil tanks and other works now in process of building are completed, but to make a good year we must have one or two big jobs on steamers; these come in fits and starts, and cannot be relied on, but you will doubtless be pleased to know our Dock is so well equipped with up-to-date machinery, that we are always ready and capable of taking in hand any Docking and Engineering work that may be offered us.

During the past year we have spent some \$4,368.48 on the Dock, most of this was for a new Working Shed which we found was badly re-

I may here mention, Gentlemen, one of our greatest troubles is to collect accounts due us; if we could do so on due dates we should have little or no overdraft with our Bankers, and during the past few years interest has been quite an item in our accounts which we would like to see reduced, but many of our customers find times hard, and owing to competition, and to keep the business together, we have to allow some little slackness in settling of accounts.

You will notice, Gentlemen, your Consulting Committee and General Manager have again waived a very large percentage of their Fees, but I hope the day is not far distant when the Dock will again be having good years, and full fees can be withdrawn by your Consulting Committee and General Manager without making an appreciable tax on your profits. As my business will not permit of my being here during the summer months, your Consulting Committee have asked my Firm (Messrs. Tait & Co.) to act as General Managers. This, Gentlemen, will enable cheque book, accounts, etc., to be kept in one office for the year, instead of, as sometimes has been the case, changing more than once during the twelve months.

Gentlemen, there are no other points which occur to me to refer to, but any questions you may desire to put bearing upon the statements now before the meeting, I shall be glad to answer to the best of my ability.

-No questions being asked

The Chairman proposed that the Report and accounts as presented be adopted and passed.

Mr. Thomas seconded and the motion was

carried unanimously.

Mr. Black then proposed and Mr. Hempel seconded the re-election of Messrs. Gardnier & Kruse,—carried unanimously.

## BOMBAY TRAMWAYS

The Bombay administration Blue-Book for 1905-06 reports Bombay City, Karachi and Nasik as the only places possessing tramway services in the Western Presidency. The Bombay Tramways have a length of track of 17 miles and carried 25,119,426 passengers during the year under notice; the Karachi Tramways with a track of 7 miles carried 2,549,518 passengers; while the Nasik Tramway carried 102,266 passengers. Of new tramway extensions, the Neral-Matheran Steam Tramway was almost completed during the year; a proposal to construct a steam tramway or light railway on the Nadiad-Kapadvanj Road was under contemplation; another scheme to connect Dhanduka with the Bhavnagar-Gondal-Junagad-Porbundar Railway at Ranpur by means of a steam tramway was also under consideration; and finally the prospects of a tramway service in Broach are also reported as being under investigation.

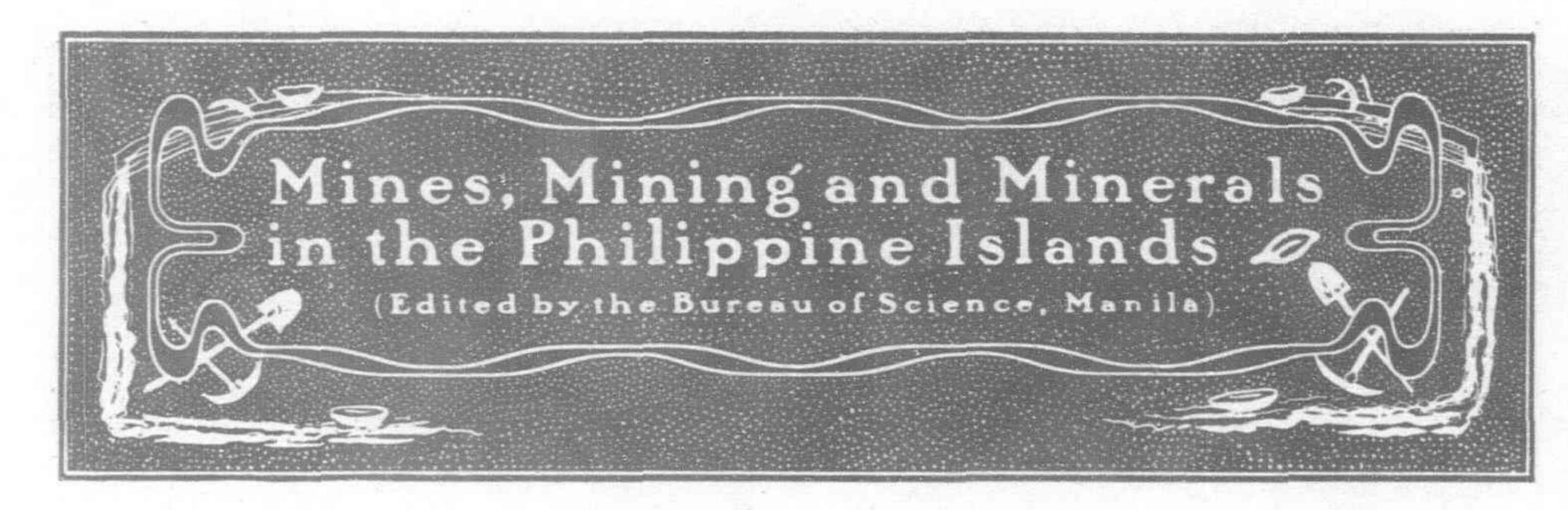
## CENSUS OF CHINESE PROVINCES

The following is an authentic census of some of the Chinese provinces compiled by the Board of Finance.

Fengtien 5,406,359, Jehol 665,768, Kirin 1,132,132, Shangtung 37,952,823, Shanhsi 11,361,843, Honan 23,134,124, Shenhsi 8,702,820, Chekiang 11,997,950, Kiangsi 24,650,157, Hupeh 31,310,431, Hunan 3,126,513, Szechuan 77,430,981, Kuangton 30,355,502, Kueichou 4,899,085, and Kiangnan 23,220,687.

From the above it will be seen that the province of Szechuan alone contains a population about twice that of Japan and France, and 50 per cent. greater than that of Germany, and about the same as that of the United States of

America.



[This department will be a regular feature of The Far Eastern Review and will prove of general interest and value, especially to the miners of the Philippine Islands. It will contain a variety of reliable articles, observations and notes concerning the minerals of the archipelago, their development, observations on the mining situation, reports on the progress of development work by private interests, notes of a personal nature dealing with the movements and doings of the miners, and a fund of other useful information all of which is expected in a small way at least to help along mining enterprise. In order to give special weight to the department, as regards accuracy, etc., we have arranged with the Director of the Bureau of Science to have the matter edited by the Chief of the Division of Mines.—Editor's Note.]

## ISLAND OF MARINDUQUE

The island of Marinduque is built upon a foundation of igneous rocks, chiefly diorite (in some places quartz diorite) and andesite It is quite possible that the latter is but a superficial phase of the former, its porphyritic texture being due to the more rapid cooling of the igneous mass. These basal rocks were covered with a series of sedimentaries, of which a very siliceous white sandstone was the most important member. The period of sedimentation was probably followed by one of eruptive

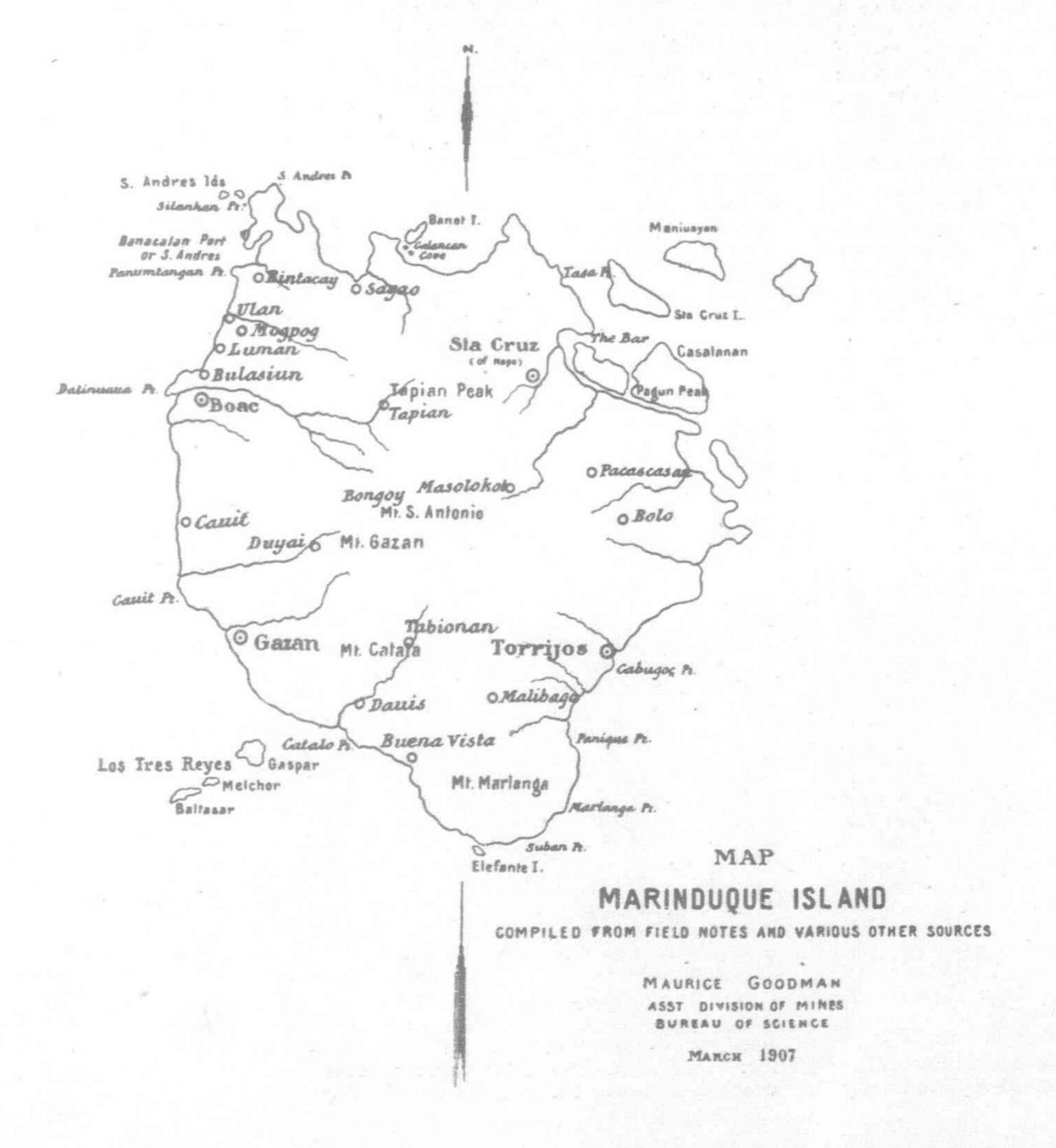
activity, which produced a blanket deposit of tuff and andesite, and this was in its turn submerged to be covered with a capping of white limestone. Then came the final elevating thrust, which being applied either unequally or to an unequally yielding mass, caused a prevailing dip of the overlying strata southwards.

The eruptive period in the island's history witnessed not only a considerable change in the topography but also a marked alteration and metamorphism of the earlier rocks. The

white sandstone became a fine grained white quartzite, while the igneous rock suffered a change both in composition and in structure. In some places, notably in the southwestern part of the island, are found immense serpentine and chloritic outcrops which resulted from the alteration of the more basic igneous rocks. These rocks have in places become so squeezed and shattered as a result of metamorphic processes, as to cause them to take on a fine felsitic texture, and to develop a marked cleavage structure. Numerous fissures were also opened during this period, to become filled in time from quartz and ore bearing solutions. One of these is about seven miles east of Boac on the bank of the Malaquing Sapa, in the barrio of Tappiing. Here a fifteen inch fissure vein of slightly auriferous quartz occurs between igneous walls, one of which is the dark felsite very much fractured and the other a quartz diorite containing considerable pyrite.

From the direction of the fissures and the strike of the folded strata, it seems likely that the direction of the dynamic stresses was approximately N. N. E. and S. S. W. The fissure veins in igneous rocks show no remarkable uniformity in strike and were probably first caused by contraction of the molten mass to be later modified by rock movements.

About half a mile southeast of the barrio of Bintacay, in the extreme northwestern part of the island, is an outcrop of very much weathered andesite, in the cut of a new wagon road. Running through it at various angles



are numerous small stringers of quartz, the two largest of which carry a small amount of specular hematite, about 2½% of copper and traces of gold. The dip is almost vertical and the general direction of the veinlets here appears to be approximately E and W. Although happily situated with respect to harbor and transportation facilities, the veins are too small and too poor to make them of economic value.

About three-fourths of a mile W. N. W. of the barrio of Masolokot, intersecting the Pansui creek, which here runs almost due East, is an outcrop of a quartz lode. On the north side of the creek is a hard quartz vein, ten to twelve feet wide, running approximately N. N. W. and S. S. E. and dipping about 35° towards the W. S. W. The outcrop has been exposed by erosion for a length of about fifty feet, but scarcely any development work has been done upon it by the locators. The country rock which is an andesite, is largely fractured, the main cleavage plane being roughly parallel to the plane of the vein. The contact is quite distinct but irregular, and large horses of the country rock are enclosed in the vein itself. Stringers or lenses of galena also appear in the matrix, most of them being quite small both in length and in width. The largest, which consists of practically pure galena and a very small amount of iron pyrites, has been followed for a length of about twelve feet, in which distance it has widened out from about two inches to ten inches. The chute appears to be lenticular in form, dipping downward along the strike as well as lying parallel to the vein itself. The vein is very irregular in mineralization, and a number of samples taken from different portions of the vein show it also to be surprisingly poor in gold and silver values. A sample from the center of the vein, which proved to be the richest portion, gave only o.o. ozs. of gold and 1.25 ozs. of silver per ton; equivalent in value to about \$1.08. It is evident, therefore, that the entire vein could not be worked at a profit, and the only question remains as to whether or not there is a sufficient amount of galena in the vein to pay for working the richer streaks and then hand-sorting the ore. The galena carries no gold and but 11.38 ozs. of silver per ton, which is worth about \$7.85 at the present high market rate. The cost of mining would be high, for the quartz is hard and flinty and the rich seams are apparently very irregular and probably not continuous. Pumping also would probably be an important item. The present prospect is a hole but about four feet deep and almost on the level of the creek which intersects the vein. Transportation would be expensive, for there is no road from the location to the coast, which is about five miles distant in a straight line and considerably farther, along the banks of the Pansui creek. Such a road would also be expensive on account of the heavy cutting which would have to be done, and bridges that would be required.

From the present showing therefore it would seem that the exploitation of this vein would prove an unprofitable undertaking. It must be remembered, however, that the ground has been prospected but to an extremely small extent and that further exploration may alter the case materially by showing up larger and more continuous chutes. However, profitable lead mines in igneous rocks are rather uncommon, and considering the conditions, it is not very likely that this will be one of the exceptions.

On the south side of the river the lode is split into two branches, making an angle of nearly 180° with each other. The larger of these is about five feet wide and strikes approximately E. S. E. and W. N. W. dipping about 42° towards the S. S. W. The lower half of this vein is a hard quartz, projects more prominently and above the hanging half and shows a marked slickenside, indicating a movement within the vein itself. The assays were extremely poor, showing less than 0.2% of lead, a trace of gold and no silver.

Near the barrio of Bolo, a lode similar to the one described above outcrops at a place locally known as Putul na Bunduc. The Bolo creek has denuded the face of the vein, exposing it to a height of about thirty feet and for a length of about 150 feet. The vein is fifteen to twenty feet thick and strikes N. N. E. and S. S. W. with a dip of 72° towards the W. N. W. The location is far more suitable for the purpose of mining than the one previously described, but unfortunately, the value of the ore is very small. A rough sample of the outcrop showed 2.07% lead and 0.02 ozs. gold, giving a total value of only \$2.85 per ton at the present market rate of lead.

A much more promising prospect exists near the barrio of Pacascasan. Here a claim has been located and staked on a quartz vein, which at the time of my visit was entirely undeveloped, with the exception of a very small open cut across the vein and about four feet deep. This exposed a five foot vein of red clay and both honeycombed and crystallized quartz, containing a small amount of galena and pyrite. Free gold was also observed in the quartz but in very small amount. From the small area uncovered and from other outcrops, the strike of the vein appears to be N. W. and S. E. with a slight dip towards the S. W., but other outcrops near the discovery line make it appear as though there are either more than one vein or else that these outcrops belong to offshoots from the original vein. Both walls of the vein are andesite, which has been very much kaolinized and stained at the contact, making the line of demarcation indistinct. An average assay of two samples taken across the vein in the open cut showed 0.64% lead, 0.55 ozs. gold, and 0.305 ozs. silver per ton, or a total value of \$12.33 at the present market rate of metals. It should be remembered that these samples represented but a very small area, and their importance should therefore be estimated accordingly; nevertheless the prospect must be conceded promising.

The location of the prospect is admirably adapted for economic operation. It is about 550 feet above sea level, in a small draw, and about 120 feet below the top of a ridge. This ridge is fairly steep and terminates in a coastal plain about one and a half miles wide. The coast and what appears to be a well protected port is only about two and a half miles distant and in plain view.

In addition to the several lodes described above, it is interesting and may prove of value to some, to report that in the Napó River, only about 300 yards south of the municipality of Santa Cruz, were found a number of large and almost pure specimens of galena and chalcocite float. While no one specimen contained both minerals, it is quite possible that they were derived from, and constituted separate stringers in the same vein. Some of the boulders which contained both quartz and chalcocite weighed about 250 pounds and were nearly two feet in diameter. One of these specimens showed roughly 18% copper, 0.2 ounces gold, and 8.0 ounces silver per ton. A rounded boulder weighing about ten pounds consisted of practically pure galena and carried 0.04 ounces gold and 6.85 ounces silver per ton. Unfortunately, the lode from which these specimens were derived could not be readily located, and it was impracticable to institute extensive explorations for that purpose, but it is almost certain to prove a valuable find to the prospector who is successful in doing so. Nor should it prove a very difficult matter, for to judge from the carrying power of the stream, and the size and weight of the specimens, the source cannot be far distant. Another suggestive clue is the fact that the float was found in a low river bank, the base of which is igneous while the hill immediately above it is the hard white quartzite. It is therefore quite possible that the lode, like the float, will be found at the contact between the two formations, this being a line of weakness and a likely place for the formation of a vein.

Only one other mineral deposit was encountered of sufficient extent to be worth recording. This is a deposit of specular hematite which outcrops in the gorge of the Maculapnit

Sapa, a branch of the Boac River. The deposit is about twenty feet thick and dips at an angle of 22° towards the S. E. It lies upon a floor of altered sandstone containing olivine, hematite and secondary quartz, and is capped by a stratum of hard, greenish, impure quartzite, very much fractured and containing considerable pyrite. The extent of the deposit could not be definitely determined on account of the soil and vegetation which covered the ground, but to a height of 100 feet above the river, the ore could be easily traced. While there may be no objection to it on the score of quantity the matters of quality and accessibility are less satisfactory. An analysis of a sample taken from the outcrop showed the following percentages: Fe 56.88, Si O2 13.91, S 0.79, P trace. The high percentage of sulphur is almost prohibitive, but this objection may be partly overcome by sorting, for the pyrite is not uniformly distributed through the ore, but occurs more or less in bunches.

The chief drawback to this deposit is its relative inaccessibility. It is situated about ten miles east of Boac, and is connected with it partly by a fair road which crosses and recrosses the Boac river and its branches at numerous points. The last two or three miles, however, are impassable to large animals, being over a very narrow and rocky trail, partly on the banks and partly in the river itself. Timber in the neighborbood of the deposit is plentiful, so that there would be plenty of material for charcoal making, should anyone consider starting a small iron industry similar to that of the Angat region.

In addition to mineral deposits, there are several deposits of bat guano distributed over . the island of Marinduque. As in other parts of the Philippines, they are located in caves of the limestone capping. One of the largest of these is located at an elevation of about 1400 feet above sea level, in a place called Bongoy, about three miles N.N.E. of the barrio of Duyai. This barrio is connected with the coast by a fairly good road, but from Duyai to the cave, the ascent is very steep and difficult. The mouth of the cave is very wide and high and its sides and roof are hung with large vari-colored stalactites. The entrance is down a steep and rocky path to the cave proper, which is about fifty feet below. The main chamber is about 120 feet long by about 35 feet wide, and branching from it are three smaller chambers. The floors of all the chambers are covered with bat guano, which is wet and muddy at the center, but dry at the sides and ends. The average of a number of soundings showed but two feet of depth. It is estimated that there are about 400 tons of guano in this one cave.

Another occurrence of geological interest rather than economic importance, was observed about two and a half miles up the stream from the barrio of Tabionan. Here a small flow of natural gas is emitted from a minute fissure in a metamorphosed igneous rock, composed largely of serpentine. This formation overlies a series of sedimentaries consisting mainly of impure limestones, and these latter are probably the source of the natural gas. Several other small gas leaks were noticed, some on the bottom of the stream and some on the banks, but all issued at a very low pressure. The largest of them afforded a flame but seven inches high.

In conclusion, it were well to caution whoever may be interested, that these notes are the results of observations extending for a period of less than a month over an island of approximately 350 square miles. The work was therefore in the nature of a rapid reconnoissance, and the geological inferences drawn as the result of hasty observations, must therefore be left subject to modification, should a more detailed study render it necessary. However, these notes may not be entirely without value to future prospectors, and even to the geologist these brief notes on an island, which has to the writer's knowledge no other geological literature, may perhaps be of some interest.

MAURICE GOODMAN.

#### PERSONAL

Mr. Leonard Lehlbach, manager of the Lepanto Mining Co., sailed from Manila on the China last month for San Francisco. He expects to spend some time in the United States in the interests of his company.

The Kimball brothers, who are managing and superintending the dredge in Masbate, have been spending a couple of weeks in Manila on business.

Mr. M. P. Boag of the Risdon Iron Works, who recently arrived in the islands, brought with him a stamp mill and concentrating machinery which he will install on the Eastern Gold Bug Mining Co.'s property in Masbate.

Mr. G. R. Fearby, the first discoverer of a deposit of tin in Australia, paid a short visit to the Philippines recently. At present he is in Indo-China and reports having located some good tin ore in that province.

Mr. Nightingale of the Federated Malay States Inspectorate of Mines passed through Manila last week on his way to the China Coast.

Manager Eye of the Clarke's Consolidated mines at Antimok, Benguet, was a visitor to Manila last month. He came to meet his wife who arrived from the homeland.

Mr. Dilworth, who was associated with Mr. Lyman in the investigations of the Cebu coalfields, has gone to Polillo in the interests of the same company. Mr. Lyman sailed from the Philippines last week fully recovered from his serious illness.

George Morgan, vice-president and secretary of the Eastern Mining Company of Masbate, leaves on the Shawmut for the United States on business connected with his company.

## TRADE OPPORTUNITIES

Gasoline engines.—H. J. Reesink & Co., Havenstraat, Zutphen, Holland, write to the Manufacturers' Record: "We are in the market for first-class gas, gasoline oil, or benzine engines."

Telephone material.—The Postmaster-General of Western Australia, at Perth, invites bids until March 25 for lead covered, paper-insulated telephone cable, as follows: Two miles of 208 pairs (20-pound conductors); 110 yards of 156 pairs (20-pound conductors); 660 yards of 104 pairs (20-pound conductors); and 880 yards of 52 pairs (20-pound conductors). Deposit 5 per cent up to \$5,000 and 2½ per cent on any further amount in excess of \$5,000, The Postmaster-General of New South Walesat Sydney, invites bids until April 29 for tele, phone material, including registers, relays. wire attachments, keys, etc. The Public Works Department of the Alberta Government, Canada, are making arrangements for the construction of a telephone line between Edmonton and Lloydminster, Alta. Another line will also be constructed from Edmonton to Athabasca Landing, Alta.

Bridges and supplies.—The city corporation of Auckland, New Zealand, invites bids until May 9 for the erection of road-traffic bridge 36 feet wide, 810 feet long, from center to center of abutment (reenforced concrete or steel), 95 feet solid earth filling, held up by retaining walls, total length 910 feet; \$500 premium for best design not adopted. Address the town clerk. The city corporation of Dunedin, New Zealand, asks for bids until June 19 to supply (1) ironwork to furnish complete six beds of horizontal through retorts; (2) fire-brick goods and retorts for same; (3) stage floor consisting of cast-iron columns, steel girders, and floor plates; (4) steel roof principals; (5) cast-iron gutterings, down pipes, etc.; (6) gas holder. Address T. Cole, 11 Victoria street, Westminster, S. W., London, England. Tenders are invited or the construction of an iron bridge at Oued Damous (Algeria). Apply M. Gauckler, 19 boulevard Bon Accueil, Alger-Mustapha.

Railway construction.—Vice-Consul S. K. Lupton of Valparaiso, reports as follows: The Government of Chile has completed its railway development scheme, and Congress has authorized the President of the Republic to build and contract to build railroads to cost nearly \$40,000,000 gold. At least 1,814 kilometers (kilometer, .62137 of a mile) of this is to be built with capital provided by the builder, who will be allowed to operate the road until it is paid for by the Government. It is said that the limit fixed for the average cost of the line is \$17,000 per kilometer, not counting rolling stock.

Public works.—The China Telegraph states that liberal provision has again been made this year for works in connection with the development of the State of Pahang, Malay Peninsula, the Public Works Department being allotted more money to spend in 1907 than ever before. The total amount voted for works, buildings, roads, and bridges is \$825,821, against \$607,700 in 1906, or an increase of \$218,121. If to this be added the sum of \$72,749, provided for "personal emoluments" and "other charges," the total will be \$898,570. Under the heading of works and buildings \$177,975 is provided, of which \$23,600 is classed as annually recurrent expenditure, and the balance \$154,375 is for special services. Under this latter head \$41,500 is provided for a much-needed water supply for Bentong, a thriving mining center; \$30,000 for a new Astana for his Highness the Sultan at Pekan, and \$10,000 for town drainage at Bentong. One of the most important votes is a first installment of \$50,000 for the Benta-Sepan section of the main trunk road from the Ulu to the east coast. The proposal is to make a cart road from Benta, a point on the Pahang trunk road 16 miles from Lipis to Kauntan. It will be a great undertaking in road making, the distance being estimated at about 150 miles. The line of this road will pass through some

of the richest agricultural and mining lands in Pahang, and it will be of incalculable value in opening up the State.

Railway materials.—According to the official advices received by the Department of State, the South Manchuria Railway Company, which is under the direction of the Japanese Government, has decided to adopt the American system, and to place large orders for materials in the United States as an expression of appreciation of America's friennly attitude toward Japan.

#### NEW PUBLICATIONS

Henley's Twentieth Century Book of Recipes, Formulas and Processes—Edited by Gardner D. Hiscox, M. E. A book suited to the needs of everyday life and contains selected recipes and formulas for producing compounds that everyone must need at some time. The Norman W. Henley Publishing Co., 132 Nassau Street, New York, U. S. A. Cloth \$3.00; Three-quarter French Morocco, \$4.00.

Distillation of Alcohol and Denaturing, by F. B. Wright. Devoted particularly to the processes of distilling from farm products and the denaturing of the alcohol product for use in farm engines, etc. Spon & Chamberlain, 123 Liberty street, New York. Price \$1.00 net.

The Six Chord Spiral, by J. R. Stephens, M. E. A demonstration in technical form of the advantages of the Six-chord spiral for practical use in surveying. The Engineering News Publishing Company, New York. Price, cloth \$1.25; boards, \$1.00.

The Directory and Chronicle for China, Japan, Korea, Indo-China, Straits Settlements, Malay States, Siam, Netherlands India, Borneo, The Philippines, etc. for 1907, forty-fifth year, by the Hongkong Daily Press Publishing Co. Des Voeux Road, Hongkong. Price, Thirty Shillings

## HEMP STATISTICS, MARCH 1st, 1907

(Courtesy of C. N. Nicholson, Secretary Manila Chamber of Commerce.)

Arrivals of hemp at Manila up to 30 March		174,437 Bales. 47,803 Bales.
Arrivals of hemp at all Ports up to 30 March		222,240 Bales.
Stocks on hand in Manila and Cebu on 1st January 1907		63,432 Bales.
Total		285,672 Bales.
Export to all parts to date 30-3-07	181,824 Bales.	183,024 Bales.
Total stocks at Manila and Cebu on 1st April 1907		102,648 Bales.

## EXPORT OF HEMP, MARCH 1907.

Date	Vessel	London	L'pool	Atlantic U.S.	Pacific East & California	Austialia	Other pts.	Total Bales
	F'wd:-	48,960	15,093	32,496	3,000	480	8,605	108,634
Mar. I	Hongkong Maru						200	200
64 64	Rubi						700	1,800
66 .66	Loongsang	155	100			***********	416	671
66 66	Schuykill, Cebu							8,980
" 3	Indrasamha			18,545		*****		18,545
" 5	Prinz Waldemar							100
11 6	Taming						921	921
66 7	Sandakan						100	100
	Zafiro						554	571
66 66	Antilochus, Cebu			A .				7,384
" II	Tsinan							50
11 13	Changsha						470	470
" 15	Yawata Maru						50	50
11 11	Rubi							1,376
" 18	Isla de Panay	1,950	250				50	2,250
11 19	Taming					*******	200	200
" 2I	Chingtu							661
" 22	Zafiro						100	100
" 25	Kumano Maru							1,085
" 29	Yuensang						300	300
66 56	Palma						1,200	19,351
16 14	Empire						626	626
66 66	Indragura, Cebu							7,375
16 66	The state of the s				*********		24	24
Тот	A I	73,600	20,586	67,396	3,000	1,715	15,527	181,284

## FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

ELECTRIC RAILWAYS, LIGHTING, POWER, ETC.

Tramway for Nagasaki.—Application has been made to the Minister of Communications, reports the Nagasaki Press, for permission to construct an electric tramway in Nagasaki. The main line would connect Urakami and Oura and a branch line would run round to Inasa. The promoters belong to Nagasaki and the capital required is estimated at Yen 1,200,000.

ELECTRIC RAILWAY STATISTICS.—Statistics covering the electric railways of the United States at the end of 1905 indicate that the trackage aggregated 32,517 miles (including elevated railway), with 63,391 motor cars and 13,059 trail and service cars. Cable, steam dummy and horse lines aggregate only 633 miles, with 1,084 grip cars or locomotives and 2,217 trail or horse cars. The total capital stock was \$1,844,565,136.

NEW WAVE MOTOR.—At Young's Pier, Atlantic City, a new wave motor is lighting a portion of the pier, notes The Western Electrician (Chicago, February 9). It is the first really successful contrivance of the kind in use. "It is a big float or buoy and so arranged that the motion of the swells will work it, no matter at what angle the waves run. This motor drives a compressed-air engine, which fills large tanks. The tanks in turn feed a compressed-air motor, which drives the dynamo that furnishes the current for the lighting."

Monster Whistle.—A whistle that can be heard normally at ten miles, and at twenty with a strong wind, has been installed by the East St. Louis and Suburban Electric Railway Company at the power house, where the company's machine shops and car barns are located. The greatest modern siren comprises three whistles. The largest is almost six feet in height and nearly as big around as a man. On each side of the main one is a smaller whistle. This big triple whistler is connected with an electric clock, regulated by the Government standard time sent out from Washington. The electric lock with the whistle is guaranteed not to vary five seconds in time a year.

Electric Light Dont's.—The following "Electric Light Dont's" are contributed by Ernest Filer to The Daily News, Chicago: "Don't let the office boy or any one else who does not understand make changes in electric wiring or lights. They may do the very thing they ought not. Don't pull a lamp hung by a flexible cord to one side with a wire and then fasten to a gas-pipe. I have seen a wire become red hot in this manner. If the lamp hung by a cord must be pulled over, use a string. Don't wrap paper around a lamp for a shade. You might go home and forget it and a fire might be started from the heat. Use a glass or metal shade. That is what they are for. Don't let a socket on a fixture hang loose. Have it repaired. Otherwise it may cause trouble where least expected. Don't try to save a little by running flexible wires over boxes, partitions, and into closets. Have permanent wires installed. These flexible wires used this way are dangerous."

Electric Extensions at Yokohama.—An investigation committee of the Yokohama City Assembly met on March 11 to discuss the petition of the Yokohama Electric Railway Company for leave to extend its line from Nishinohashi to Hanazakicho, via Kurumabashi, Chojamachi and Hinodecho; another from Nakamuracho to Honmoku, via Ishikawa, Motomachi and Daikanzaka, and another from the front of Messrs. Jardine, Matheson & Co., to Kamakura and Negishi via Bund, and Honmoku. It was decided at the committee meeting to make a survey of the places named.

Messrs. K. Inouye, G. Usui, M. Tsuchida, M. Yoko-yama, Y. Hagino and others have promoted the establishment of a new electric tramway company for Yoko-hama with 1½ million yen capital under the style of the Yokohama Shigai Denki Tetsudo Kabushiki Kaisha. Application for official permission has already been made to the authorities. The company proposes to lay a line from Kamenohashi to Aokimachi via Matsukahehco-dori, Hanazakicho and Hiranumamachi; another line from Midoribashi to Kamenohashi via Nogemachi, Hinodecho, Suyeyoshicho, Minami-Yoshidamachi, Miyoshicho and Nakamura-machi, and another line from Aokimachi to Hodogoya via Sengenhsita.—Japan Advertiser.

## RAILWAYS AND RAILWAY SUPPLIES

SHANTUNG RAILWAYS.—H. E. Yang Shih-hsiang, Governor of Shantung, has approved an application by the Kiaochow-Chinan-fu Railway Co., for permission to construct a railway from Yih-hsien to Tien Chwang-ho, which will be a branch of the Company's main line.

CHENGLING TATYUANFU RAILWAY.—As an enormous sum was required to buy back for the Peking-Hankow Railway, the Chinese Government is now considering instead the redemption of the Chengling Taiyuenfu Railway, which has been built partly by Russian capital.

REDEMPTION OF PEKING-HANKOW RAILWAY.—A dispatch from Peking states that the board of communications held a conference there recently on the subject of redemption of the Peking-Hankow Railway and had come to a decision as to the question of management.

PROPOSED RAILROAD AT YANGCHOW .- A score of wealthy salt-merchants in Yangchow are interesting

themselves in a project to construct a railway from Icheng to Taschow, principally for the transport of salt. These merchants have subscribed two million taels for the enterprise, and have appointed Their Excellencies Lin Men and Chu Yu-chi to manage it.

Trans-Siberian Railway.—The service on the Trans-Siberian Railway has been increased to three express trains a week from Vladivostok to Moscow and three from Moscow to Vladivostok. Trains arrive in Vladivostok from Moscow on Tuesdays, Wednesdays and Friday st 11:45 a. m The trains arriving on Wednesdays and leaving on Fridays belong to the International Sleeping Car Co.

Anam-Yunnan Railway Company Obstructed.—
The French minister at Peking has filed a protest with
the Wai-wu-pu in which he asks for protection against
the tribes of the township of Mangu, Yunnan province,
who have repeatedly obstructed the construction.
French troops are reported to have been distributed
among the different railway stations in Yunnan awaiting some definite action by the viceroy.

Shanghai-Nanking Railway.—According to a coast exchange the Shanghai-Nanking Railway will open the line between Wusieh and Changchow for passenger traffic about May first. The company has ordered 10,000 tons of steel rails from the Hanyang Iron and Steel Works for immediate delivery. The line from Wusieh to Changchow was announced early in the month as open for the carrying of freight April 10.

Heilungchiang Railways.—H. E. Chun Teh-chuan, Tartar-General of Heilungchiang, has informed the Central Government that the gentry of that province have subscribed Tls. 2,000,000 towards the cost of the proposed Tsitsihar-Aigun railway. The first section, as far as An-chang has been surveyed and a great quantity of material has already been provided. The sleepers will be supplied by the Province and the rails will be obtained from the Hangyang Ironworks.

Kirin-Changchun Railway.—The governor of Kirin opposes the proposition made by the Russians and the Japanese that the Kirin-Changchung line be built by capital contributed jointly by Russian, Chinese and Japanese capitalists and has requested the Waiwu-pu to persuade the Russian and Japanese governments to withdraw their request. This indicates that the Chinese are anxious to build the road with Chinese capital and develop Kirin without outside help.

Doubling Tokaido Railway.—The work of doubling the Tokaido railway is progressing. The section between Kiyosu and Kisogawa, a distance of 9 miles 6 chains, was doubled on March 1, while the section between Nagoya and Biwajima, a distance of 2½ miles, and also that between Ofu and Otaka, a distance of 4 miles, will be completely doubled by the end of this month. The section between Otaka and Atsuta, a distance of 4 miles, will be doubled in May.—Japan Advertiser.

Mongolia Railways.—Peking advices state that although there has been a long discussion in the Grand Council respecting the proposal to construct a railway from Kalgan to Kulun, in Mongolia, the project has not yet been sanctioned. H. E. Councillor Ling Shao-nien has been urgently recommending the plan to their Majesties, who, it is said, on the advice of H. E. Tang Shaoyi, are prepared to approve it. The work will probably be undertaken after the completion of the Peking-Kalgan line.

Big Order for Cars.—The purchasing agent of the Pennsylvania Railroad has invited bids for the construction of 5,000 cars. Their estimated cost is \$6,000,-000. With the placing of this order, the company will have ordered within the last two years nearly 60,000 additional freight cars of various types. It is also said that the company is getting better service out of its cars than ever before. The average movement of its cars per day in 1904 was 16,52 miles, while for 1906 the average movement was 27.19 miles a day.—Commercial America.

The Canton-Hankow Railway.—Advices from Canton, dated March 13, state that the local gentry and the shareholders in the Canton-Hankow Railway continue to fight and wrangle with each other, and that affairs in connection with the enterprise are practically at a deadlock. Contrary to expectation nothing has been settled since the Viceroy Chou-fu arrived, and no progress can now be looked for until the Ministry of Posts and Communications intervenes or until a special commission is appointed by the government to mediate between the wrangling factions.

Canton-Kowloon Railway.—Taotai Wên Ho and Lai Kwok Lin have submitted a telegraphic suggestion to H. E. the Viceroy for his approval in connection with the soliciting of subscriptions for shares of the Canton-Kowloon Railway Company. The suggestion is as follows:—They proposed to temporarily open a register for shares of \$10 each at the Chinese Imperial Telegraph Administration offices at Hongkong. A first call of \$1 will be collected on every share at the Dutch Bank. When more subscriptions are obtained, an office will be opened for the purpose, and when subscriptions are fully collected, the capital will be deposited at the Hongkong and Shanghai Banking Corporation, Hongkong. Subscriptions for shares will be only collected

up to the sum equal to £750,000. Shareholders are to enjoy the privilege as stipulated in the agreement entered upon by the Chinese Government with the British syndicate at Peking.

CHINESE EAGER TO BUILD RAILWAYS-The people of the two provinces of Kwangsi and Yunnan appear to be most eager to build their own railways and work their own mines in their provinces. The Kwangsi community residing at Canton are now busily engaged in arranging a meeting on the 17th instant, at the Kwangsi Assembly Hall, to discuss matters. The promoter, Ho Kin Fu, has drawn up a prospectus giving in detail all the important points concerning the railway and mining of those provinces. Recently, a letter was received from Yunnan stating that the people are in need of help in the way of capital for the construction of their railway and working the mines of the province. The letter earnestly asked the Canton people to assist them and to inform and request Cantonese abroad to subscribe capital so as to help them to carry out their proposals. The people of these two provinces have for a long time past been in fear lest the interests of railway and mining of these provinces should fall into the hands of foreigners.

EGYPTIAN ENGINEERING CONTRACTS.—The January number of the Journal of the British Chamber of Commerce of Egypt contains a table showing that during the last three years more than half of the contracts made by the Departments of Finance and of Railways were secured by British firms. The contracts were considerable, and were chiefly for locomotives, goodswagons, rails, signal apparatus, etc. Locomotives entire and parts thereof were also supplied by Germany. Belgium tendered successfully for wagons, bridge and roofing materials, screws, and parts of locomotives. Small machines and oil were the principal contracts obtained by French firms. The figures given for the years 1903, 1904, and 1905, respectively, were as follows: United Kingdom, \$1,673,125, \$2,472,300, and \$2,250,000; Belgium, \$562,045, \$824,575, and \$1,076,500; France, \$5,580, \$240,000, and \$100,000; Germany, \$166,425, \$148,555, and \$432,000; other countries, \$433,-260, \$569,745, and \$399,935, making a total of \$2,834,-855 for 1903 and of \$4,015,175 and \$4,158,435 for 1904 and 1905, respectively.

## PUBLIC AND PORT WORKS, DOCKS, WHARVES, ETC.

Kawasaki Dock Company.—The Kawasaki Dock Yard Company of Japan has increased its capital from \$3,000,000 to \$5,000,000, to engage also in the construction of Iocomotives, railway carriages, cast steel work, firearms, steel and dynamos. The capital is to be further increased to \$10,000,000,

Kallang Reservoir Bids.—At a special meeting of the municipal commission, March 23, the president mentioned that six tenders had been received for the construction of the new Kallang reservoir, ranging from \$780,387 to \$1,484,629. That of the Westminster Construction Company, at \$907,641 was unanimously accepted.—Singapore Free Press.

NEW NAVAL DOCK AT KURE.—The Japanese Naval authorities have decided to construct a big dock at Kure Naval port. The dock is to be of special design, various contrivances being brought into requisition to introduce water into the dock after the completion of vessels built therein. The fact that about half a million yen was required for the launch of the battleship Satsuma has, it is reported, induced the authorities to design the new dock.

Canton River Bridge.—Wm. Danby, the engineer for the construction of the iron bridge across the Canton River, has prepared another plan for this. The two Folly Rocks will be utilized as the foundation of the bridge, and the middle part of the bridge will be made movable, so that it can be raised when steamers are passing. Since the opening of the register of the Canton River Iron Bridge Company, the demand for shares has been very brisk, and the proposed capital of the company is expected to be fully subscribed in a very short time.

Hongkong and Kowloon Wharf and Godown Co.—The report of the Hongkong and Kowloon Wharf and Godown Company, Ltd., for the year ending December 31, 1906, shows that the profit on working amounted to \$407,693.17, as compared with \$390,753.10 in 1905. It is proposed to pay a final dividend of five per cent, transfer \$135,000 and \$10,000 to depreciation and repairs, and insurance accounts, respectively, and carry forward \$3,047.91. The total loss caused by the typhoon is put down at \$322,000 and further expenditure, the immediate result of the typhoon, is estimated at \$247,000.

Improvements at Vladivostok.—Mr. Roger S. Green, the U. S. Consul at Vladivostok, writes Washington that the municipality has determined to undertake the construction of the electric street railway and power plant and an engineer is engaged upon plans and estimates. The present intention seems to be not to give the contract for the whole to one firm, but to buy the necessary material from a number of different parties. A contract for a municipal telephone system for Vladivostok has been awarded to the Russian branch of a German firm. The annual subscription for a single instrument is to be \$38.62 gold.

#### SHIP BUILDING AND GENERAL MARINE

NORTH GERMAN LLOYD OFFICE IN SINGAPORE.— Berlin, March 13.—The North German Lloyd will establish a head-office at Singapore on 1st September next.

DAKOTA CARGO INSURANCE.—Messrs. A. H. Rennie & Co., general managers of the Hongkong Milling Co., Ltd., announced that the Tokio Marine Insurance Co., Ltd., had paid their claim in full for the Dakota eargo.

Hongkong Steam Water Boat Co., Ltd. — At a private general meeting of shareholders of the Hongkong Steam Waterboat Company held on March 28, resolutions were adopted authorizing the amalgamation of this concern with the Union Water Boat Co.

SHANGHAI TUG AND LIGHTER Co.—At a meeting of the Board of Directors of the Shanghai Tug and Lighter Co., Ltd., held on March 22nd, it was voted to recommend the payment of a final dividend for the year ending December 3, 1906, of 3½ per cent. on the preference shares and 3 per cent. on the ordinary shares, making 8 per cent. for the year.

NIPPON YUSEN KAISHA,—The Nippon Yusen Kaisha is reported to have a scheme on foot to increase the number of steamers on its Bombay line to ten, for the purpose of bringing into service seven captured steamers placed at the disposal of the company, and to put on the same run the Omi Etoro, Wakamiya, Takasaki, Kageshima, Kagoshima, Tenshin, Benten, Ebohi, Ryojiun, or Moyori, and to place on the European line, the Ceylon, Bombay, and Colombo now on the Bombay run, in addition to the twelve steamers.

Oya Shipping Company Absorbed.—It is reported from Osaka that the Oya S. S. Company is absorbed by the Osaka Shosen Kaisha. The Oya Company has hitherto been running vessels—the Kotsu Maru and the Miyajima Maru—on the Vladivostok line, and to the Hokkaido—the Amakusa Maru. Its capital was -Y-465,000 and it has been in receipt of a small subsidy from the Treasury. The period of its charter expired on March 30, which fact is the proximate cause of the change announced. The Osaka Company will pay to Mr. Oya -Y-365,000, and Mr. Oya will become a shareholder of the Shosen Kaisha to the extent of -Y-100,000.—Kobe Herald.

Toyo Kisen Kaisha.—A dividend of 12 per cent. was announced at the general meeting of shareholders of the Toyo Kisen Kaisha, March 20 at the Tokio chamber of commerce. It was also announced that the company's new ships now under construction are expected completed during the year. The report and the distribution of the profits follows:—

Gross profits	220,340,092
Brought from last term	8,878.083
Reserve	229,218,175 11,500,000 217,100,000 618,170

Russo-Chinese Steamship and Trading Company.

The Dalney Vostok states that this company has been organized with headquarters at Odessa for the purpose of developing direct trade between Russia and China. The program of the company includes the establishing of direct lines between Vladivostok and Saghalien and between Nikolaevsk and China, Indo-China, and India.

After the satisfactory development of the business, the Company intends to extend the steamship service to European Russia as well as to the Sea of Okhotsk, the Kamchatka coast ports and various Eastern ports. Branches will be established at Vladivostok and Amur coast ports.

## MINING, MINERALS AND THE METAL TRADE

COAL ON FUTAKO ISLAND.—Nagasaki advices are to the effect that a large coal strata has been found on Futako, one of the islands of Takashima group and owned by the Mitsu Bishi firm.

Manchuria Iron and Coal.—A report from Mukden announces the discovery by a Japanese student of thirty and coal mines in Fenghwang, Kwantien, Hsiuen and Antung.

THIBETAN GOLD MINES.—A report from Chungkiang states that five Belgian mining experts arrived at Tachenlu some days ago, and contemplate entering Thibet with a view to investigating gold mines. The Chinese Imperial Resident of Thibet refuses to give passports.

CHINESE COAL OUTPUT.—The Chinese Engineering and Mining Company announces that the total output from the company's three coal mines in North China the week ending March 9, 1907, amounted to 16,056.54 and the sales during the same period were 13,283.07

On Co. at Kashiwazaki, Niigata, will pay an interim divided at the rate of 24 per cent. per annum and to set a set yen 220,000 as a reserve. The firm decided to add a million yen to the present capital, making a total of en million yen.

ster at Peking has requested from the Waiwupu a port for a mining engineer who intends to enter bet with a view to prospecting, but the Waiwupu replied that any protection to be given in Thibet difficult that it is desirable that he should defer his

THE MANCHURIAN GOLD MINES.—According to a Peking dispatch the Military Governor of Heilungkiang has wired to the Waiwupu that he has decided to pay 380,000 taels to Russia, being the aggregate cost of machines and buildings of the gold mines in Kwan-yin shan and Muho, which have been already returned to China.

Lama Tin Mines.—A dividend of two shillings and six pence per share has been declared by the Pusing Lama Tin Mines, Limited, payable in London and will be paid to shareholders resident in the Straits Settlements and the Federated Malay States, as soon as the register of local shareholders at that date is received from home.—Malay Mail.

March 12 states that Mr. Tsuda, formerly a member of the House of Representatives for Okayama prefecture, has organized a company with one million yen capital under the style of the Korean Gold Mining Company in co-operation with the American Ohio Mining Company. This is the first instance of the establishment of a company in co-operation with foreigners under the Japanese commercial laws.

Copper Mines in Yunnan.—The Ministry of Agriculture, Works and Commerce is consulting with the Government and the Viceroy of the Yun Kuei Provinces for the appointment of a reliable high official as Director-General of Copper Mines in Yunnan, so that the rich mineral resources of that province may be developed in order to meet the great demand for coining copper cents and check the importation of foreign copper. Funds have to be raised for developing the mines, and the Viceroys of the provinces are being consulted with this object.—N. C. Daily News.

OIL AND WATER GAS PRODUCTION.—Returnshave been received from 477 oil and water gas production companies, and these show that the total production of water gas in 1905 was 82,959,228,504 cu. ft. Of this quantity 5,547,203,913 cu. ft., or 6.7 per cent were lost by leakage, etc., leaving 77,412,024,691 cu. ft. as the net production obtained and sold. As the quantity of gas made and sold as coal gas and by-product coke oven works was 40,454,215,132 cu. ft., it appears that the consumption of water gas, and gas made from crude oil was nearly twice as much as that made from coal.

MINING Co.—The third annual general meeting of this company was held at the registered offices of the company, Gresham House, Singapore. The report and accounts for the year ended Dec. 31st last were presented and adopted. A dividend of \$3.50 per share was declared, being at the rate of 3 per cent which, together with the interim dividend of \$2 per share for the half year ended June 30th, 1906, made up a dividend of 5.5 per cent for the year.

Mr. H. Abrams and Dr. de Vos, the retiring directors, were re-elected, and the shareholders present expressed their satisfaction by formal resolution, passing a vote of thanks to the directors, manager, and secretary.—

Singapore Free Press.

OIL IN SIAM .- Petroleum is found in Muang Fang in the extreme north of Siam. The amount of oil produced is quite insignificant. The oil may be collected by skimming the water which collects in shallow pits dug for the purpose. The oil thus collected is black in color and very viscous. It is supposed that this occurrence is geologically connected with the oilfields of Burmah. This oil is not likely to become of any importance until communications have very much improved. At present it would be practically impossible to open the district so as to be able to work the deposits, even if they have any value, which is an open question. Oil has been frequently reported in Kedah, and experts have pronounced it to be there; but it is very doubtful whether there is any truth in these assertions; as no good samples have ever been obtained. It appears that people have been misled by the presence of considerable quantities of marsh-gas in some undrained ground.—Bangkok Times.

## FINANCIAL AND MISCELLANEOUS

Tokio Rice Exchange.—The Japan Advertiser announces that the Tokio Rice Exchange has increased its capital from four million to twelve million yen.

TOKIO AUTOMOBILE COMPANY.—The Tokio Automobile Company has reduced its capital stock to one million yen owing to the dullness of the money market.

The Pacific Cable Co.—The shore end of the America-Japan submarine cable via Ogasawara has been transferred from Oshimashiden, near Kawasaki, to Etchujima, in Tokyo-fu.

SEREMBAN ESTATE RUBBER.—The general meeting of the Seremban Estate Rubber Company was held on March 8th in Colombo. A dividend of 19 per cent. was declared, making 24 per cent. for the year.

HARBIN FLOUR MILL SYNDICATE.—The proprietors of the flour mills at Harbin have sent a deputation to St. Petersburg with a view to the forming of a syndicate in which the Russo-Chinese Bank will be interested.

IRON WORKS ON THE SUNGARI.—The North China Daily News has received advices from Mukden to the effect that a certain Englishman is projecting the building of iron works along the southern bank of the River Sungari.

Port Arthur-Chefoo Cable.—Advices from Peking state that negotiations are in progress between China and Japan looking to the installation of a submarine cable between Chefoo and Port Arthur. Japanese capital is behind the project.

Governments are negotiating in regard the Construction of a joint cable from Dalny to Chefoo, to replace the former cable belonging to the Great Northern Cable Company destroyed by the Japanese during the Russo-Japanese war.

THE SHANGHAI ICE, COLD STORAGE AND REFRIGE-RATING Co.—The report of business for the year 1906 showed a net profit of Tls. 24,995.97. An eight percentum dividend was declared and the balance of Tls. 8,-145.97 carried forward in order to have a fair balance to meet threatened competition.

German Orient Syndicate. — A company has been formed in Berlin under the name and style of the German Orient Syndicate, for the purpose of promoting and extending German commercial interests in the Near and Far East, and of facilitating and safeguarding German commercial relations with those parts of the world.

NATIONAL BANK OF INDIA.—The profits of the National Bank of India, Limited, for the year ended 31st December, 1906, are £261,665 which the Directors propose to deal with as follows:—Dividend for the year 12 per cent.; to Reserve Fund, £50,000; to Premises Account £10,000; to Pension Fund, £7,500; carrying forward, £122,165.

TIN IN YUNNAN.—The Yunnan Syndicate, a French mining venture, has just issued its report. The latter dwells upon extensive tin finds in the company's concession in that province. A trial shipment to London was sold at a profit. The Syndicate is now engaged in promoting a French company to work these tin deposits, which are most abundant in the district of Ling-Ngan.

Grand Hotel, Yokohama.—The net profit for the half-year of the Grand Hotel, Yokohama, after providing for general expenses, Directors' and Auditor's fees, and Sundry Creditors, and after writing off bad or doubtful debts, amounts to Yen 51,390.77 which it is proposed to apply as follows:—In payment of a dividend of -Y-6.00 per share for the half year 30,000.00; for depreciation, 7,400,00; to be carried forward, 13,990.77.

The Telephone in Mukden.—At the request of the Tartar General of Fengtien the Ministry of Posts and Communications has appointed two officials to proceed to Mukden to establish a telephone service. The reason for this step is to instal the plant purchased from Japan; the service is expected to be inaugurated within the next few months. The system will gradually be extended to other big and important cities and treaty ports in Manchuria.

Kobe Sugar Refining Company shows that the total net profit for the period has amounted to -Y-12,-977. Of this sum, -Y-1,000 has been placed to the legal reserve, -Y-500 to the reserve for the maintenance of machinery and buildings, -Y-400 paid for bonuses to the officials, and -Y-10,020 for a dividend at the rate of 20 per cent. per annum, while a surplus of -Y-1,057 has been carried forward.

Consul Babbit of Yokohama sends Japanese newspaper statements that many large flour mills have been projected in the kingdom. Those of the Imperial, the East Asia, and Meiji Flour companies will most probably be situated at Tokio and it is estimated will, with other new mills, produce 3,000 sacks daily. The establishment of a flour mill at Hankow, China, and of mills in Manchuria is also under contemplation.

The Amur River Fisheries.—Messrs. Chen Hshing-chou and Chao Han, two prominent merchants of Harbin, have obtained a franchise from the Tartar General of Heilungkiang and Kirin provinces to form a company for the purpose of exploiting the fisheries of the Amur and other streams in that territory. The capital of the company is Tls. 200,000. Three-quarters of the capital has already been subscribed and active measures have been taken to commence work at once on the Amur.

AMERICAN INDUSTRIAL EXHIBIT AT TOKIO.—One of the leading features of the industrial exhibition at Tokio that opened there March 20 and will continue until June 20, is a display of American machinery and machine tools. A number of American machinery houses have sent equipment there, and Takate & Co. of New York are also interested in the exhibit to the extent of controlling 3400 square feet of space for the display of American and European machinery. The equipment from the United States predominates.

CHARTERED MERCANTILE BANK.—The Chartered Mercantile Bank has announced from the head office that the net profits for the past year to 31st December, 1906, including the amount brought forward, are £90,-800, and that at the forthcoming general meeting of shareholders the directors will recommend a final dividend of 3½% on "A" and "B" shares,—making 6% for the year free of income tax; that £35,000 be placed to Reserve, £2,000 to Officers' Pension Fund and £20,000 carried forward.

CHARTERED BANK.—The head office of the Chartered Bank of India, Australia and China made the following announcement by cable, March 28:

"At the approaching meeting of shareholders, the Directors will recommend a dividend for the past half year at 13% per annum, free of income tax, that £25,000 be written off Bank premises account, that £100,000 be placed to reserve (which will then stand at £1,075,000), that £93,000 be carried forward as undivided profit, and that a bonus of 10% be paid to the staff of the Bank."

Pahang Rubber Co.—The Pahang Rubber Co., Limited, incorporated in the territory of Hawaii, with \$150,000 capital, have leased 2,000 acres in Pahang on which to establish a plantation of Hevea rubber. The program for 1906 called for planting of 200 acres and it is planned to have 1,000 acres in rubber within three years. Dr. E. C. Waterhouse, of Honolulu, is president of the company, Mr. D. P. R. Isenberg vice-president, and Mr. Fred T. P. Waterhouse secretary and treasurer. The manager on the estate is Mr. M. Hording.

Cotton Soars.—The foundering of the G. N. steamer Dakota has affected the raw cotton market, says the Chejoo News. American cotton which was quoted at the end of last month, has risen by -Y-2 since the news of the disaster. The steamer had on board five thousand bales, of which 1,500 were consigned to Kobe. As it has been announced to Kobe that there is little or no hope of salving the cargo, raw cotton may go up still higher in this week. There is a good stock of Bombay cotton in this country and the market was dull in consequence of the spinning companies' reluctance to buy for the time being. The result has been that prices have had to be cut. The ruling price at the end of February was, however, high, and the present quotation is said by experts to be nearer a reasonable figure.

World's Rubber Culture.—Says an editorial writer in The Electrical Review (New York, January 19), noting a recent report of the U.S. consul at Rio Janeiro: "It is said that there are in Ceylon over 100,000 acres which have been planted in rubber, and in the Malay peninsula about half as much more. It is estimated that Mexico has about 100,000 acres planted in rubber, making in all about 275,000 acres, which should produce before long about one-quarter of the world's probable consumption. The results from these plantations seem to have been so successful that the work might be enlarged, as this would not only render us less dependent upon the natural forests, but would stimulate the Brazilian rubber-producing states to begin artificial cultivation there."

Demand for Rubber,—Some idea of the enormous and ever-increasing demand for rubber, made by modern electrical, motor, and other industries is gathered from the fact that the total output of rubber for 1906 amounted to about 75,000 tons, valued at £30,000,000. Of this quantity 63 per cent came from Tropical America. All the plantation rubber that comes on the market does not make more than 2 per cent of the world's total product. Scarcely a day passes without the development of some new use for rubber, and it is quite possible that a few years will see many streets paved with rubber instead of wood-blocks; such as the rubber-pavement outside the Savoy Hotel, which scarcely shows signs of wear, although laid down about three years ago.

SINGAPORE AND JOHORE RUBBER Co., LTD.—The third report of the directors to the shareholders at the meeting on March 26th reads:—

Your Directors beg to submit the Accounts for the year ended 31st December last. It will be seen that a further sum of \$51,644.62 has been expended on Development making the total to date \$89,241.54.

Labor.—The difficulty of securing a sufficiency of coolies has at last been surmounted. A force of 443 Tamils has been successfully recruited from India and Javanese coolies are now coming in freely. The want of sufficient labor has heretofore considerably delayed the opening up the Estate but your Directors are now in a position to push ahead with development and at will be seen from the Manager's Report they expecs to have over 1,200 acres under Rubber by the end of 1907.

Gambier.—Although the Estate is producing an absolutely pure article it has been difficult to get buyers to take an interest in the product and further planting has been stopped for the present. Samples have been freely distributed and enquiries which have emanated therefrom lead your Directors to hope that ultimately a market will be found.

Buildings.—During the year further lines have been erected and there is now sufficient accommodation of this sort for all the coolies likely to be required on the Estate. A Bungalow, Office, Shop, and Hospital have also been erected.

### PHILIPPINES RAILWAYS

The work on the military railroad between Camp Overton and Camp Keithly in Mindanao will commence this month. The road will be seventeen miles in length. In this connection, the dock at Camp Overton will be rebuilt and enlarged.

The Philippines Railway Company has about twenty miles of track graded in Cebu including seven miles on the line running south towards Argao and thirteen miles approximately on the north section towards Danao. Of these sections steel has been laid for one mile on the north section and two miles on the south line.

In Panay the road is graded from Iloilo to Santa Barbara, a distance of about ten miles. The balance of the first twenty mile section is under way. Steel has been laid from Iloilo to Jara, a distance of two miles.

Distributed equally between Cebu and Panay are about 100 flat cars for construction purposes with a sufficient number of locomotives to expedite the work. In addition to the present equipment the company has ordered six additional locomotives of lighter build and these will also be divided between Iloilo and Cebu.

The construction work is progressing as rapidly as the slow arrival of supplies permits. The labor both in Cebú and Iloilo has been found very satisfactory and no difficulty is anticipated on that score. By the middle of May over 4,000 tons of steel will have arrived and the work of laying it will then commence in earnest. Every effort is being put forward to accomplish as much as possible before the rainy season sets in.

The Lepanto Mining Company has made application to the Philippine Commission for a franchise for a railroad to connect the Mancayan copper property with Bangar on the west coast of Luzon, a point about twenty miles north of San Fernando, Union, with a good harbor. This line will be about fifty miles in length and there is little doubt but that the franchise will be granted as this road, while ostensibly to carry the copper ore to the coast, will develop the most fertile tract of country in Northern Luzon and tap that belt in Luzon known as the "Philippines Temperate Zone."

Mr. Loomis F. Goodale, who succeeds Mr. Mollitor as supervising railway expert for the Philippines, arrived in Manila April 17.

The Manila Electric Railroad extension to Fort William McKinley was thrown open to the public April 18.

The Manila Railway is doing construction work on all its lines in Luzon, in order to advance the work as much as possible before the rainy season.

OF METALS, MINERALS, CHEMICALS, ETC.

Selected from the Engineering and Mining Journal.

Abrasives.—	
Borth, good drill quality, carat	\$ 85.00 .1017 .0710
Carporundum, grains, 16  Corundum	1.60-2.00
Acids.—	1.00 2.00
Hydrochlocic 20°lb	1.25-1.50 4.25-4.625 18.00-20.00 .36 .1516 .07108
Asbestos.—	, or 8 -100
No. 1, crude sh. ton Fiber No. 2, paper stock	175.00-200.00 20.00-25.00
ASPHALTUM.—	20 00 10 00
Trinidad ton California Bleaching powder, 35% 100 lb Blue Vitriol (copper sulphate), Bone Ash lb. *Caps detonating "	30.00-40.00 20.00-30.00 1.30-1.50 7.25 .07\{07\{\}
Cement.—	1.00
Portland, American, 500 lbs. bbl	1.55-160 2.25-2.50 .85
American commonlg. ton Foreign	8.00-9.00
*Dynamite 40%lb	30.00-40.00 30.00-45.00
*Fuse-Blasting	2.50 7.50 .0110
Gypsum-Fertilizer lg. ion	7.00 4.00
Lead	7.00-8.00
Bricks, domesper m Manganese, pure, 98-99%lb Ore, 80-85%_sh. ton	1.60-2.00 .75 27.00-35.00
Mercury, flask	40.50-42.00
Litharge, American P'w'dlb	$0.07\frac{1}{2} - 0.07\frac{1}{2}$ $8.50-9.00$ $0.21-0.23$ $0.70-0.71$ $0.06\frac{1}{2}-0.06\frac{1}{2}$ $0.07-0.07\frac{1}{2}$ $0.05\frac{1}{2}-0.05\frac{1}{2}$ $0.05-0.07\frac{1}{2}$ $0.05-0.07\frac{1}{2}$ $0.05-0.07\frac{1}{2}$ $0.05-0.07\frac{1}{2}$ $0.05-0.07\frac{1}{2}$ $0.05-0.07\frac{1}{2}$ $0.05-0.07\frac{1}{2}$
Potassium Cyanide (98-99%)lb PlatinumOz. *Powder black blastinglb *Judson	.1819 38.00 .13 .13½
Pyrite, Domestic Non-arsenical, lump unit. Imported non-arsenical. Imported, arsenical. Silica, Lump quartzsh. ton Ground quartz, ordinary	$ \begin{array}{r} .1111\frac{1}{2}\\ .1313\frac{1}{2}\\ .1212\frac{1}{2}\\ 2.50-4.00\\ 13.00-15.00\\ 2.75 $
SilverOz Sodium cyanide (100% KCN)lb Saltpeter*Steel, octagon drill	.671 .1819 .067068 .16
Sulphur, Louisiana prime Ig. ton.  Roll	22.12-22.50 1.85-2.15 2.20-2.60 15.00-20.00 35.00-40.00
Tinlb	2.05106
*Manila quotation.	

TERMS IN	AND TESTINGS  N.H.SCHNEIDER	N.H.SCHNEIDER	APPLIANCES AND NOVELTIES	PRACTICE	PRACTICE  PRACTICE  RAILWAY  LOCATION  BEAHAN  COCO	

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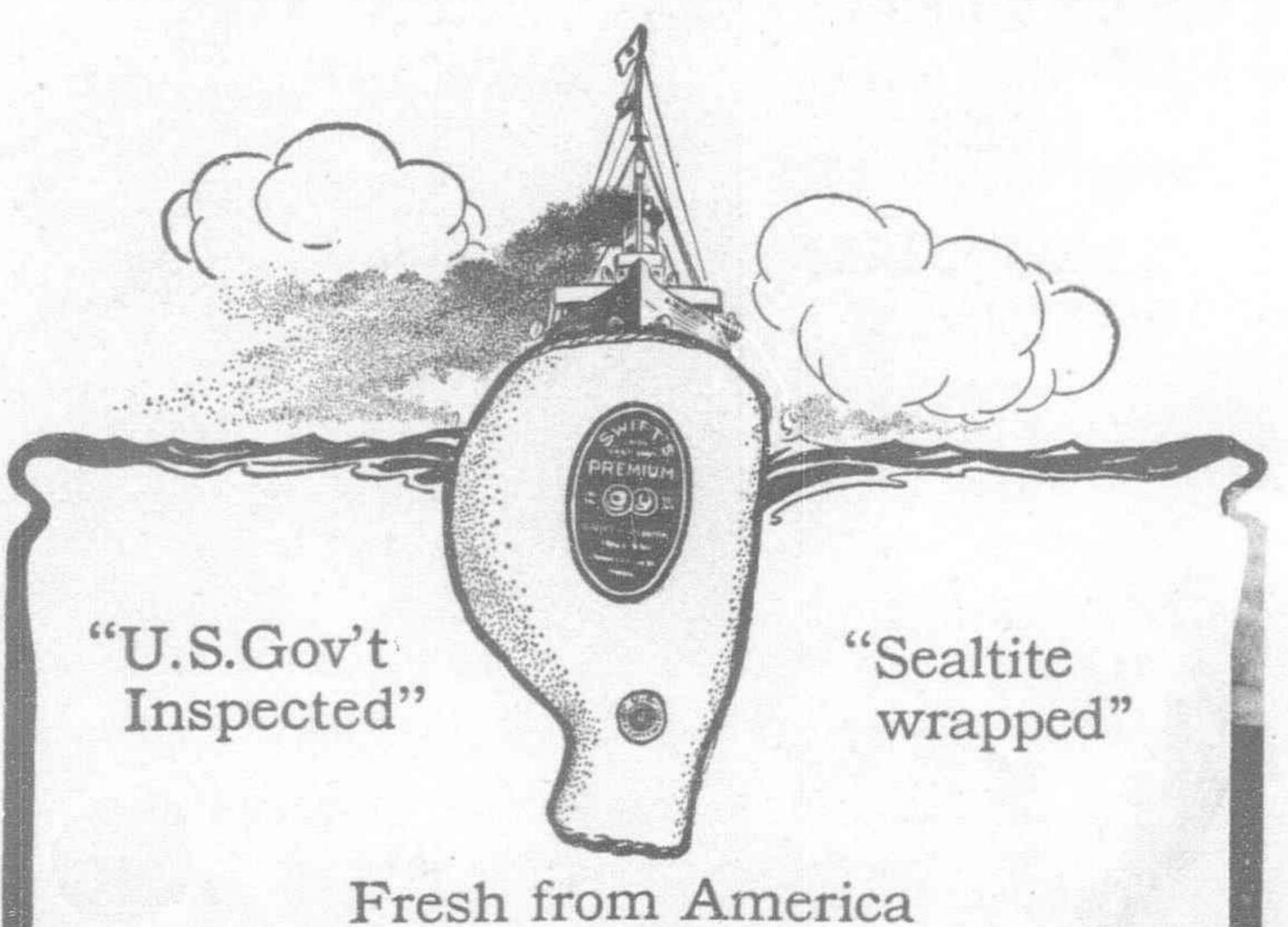
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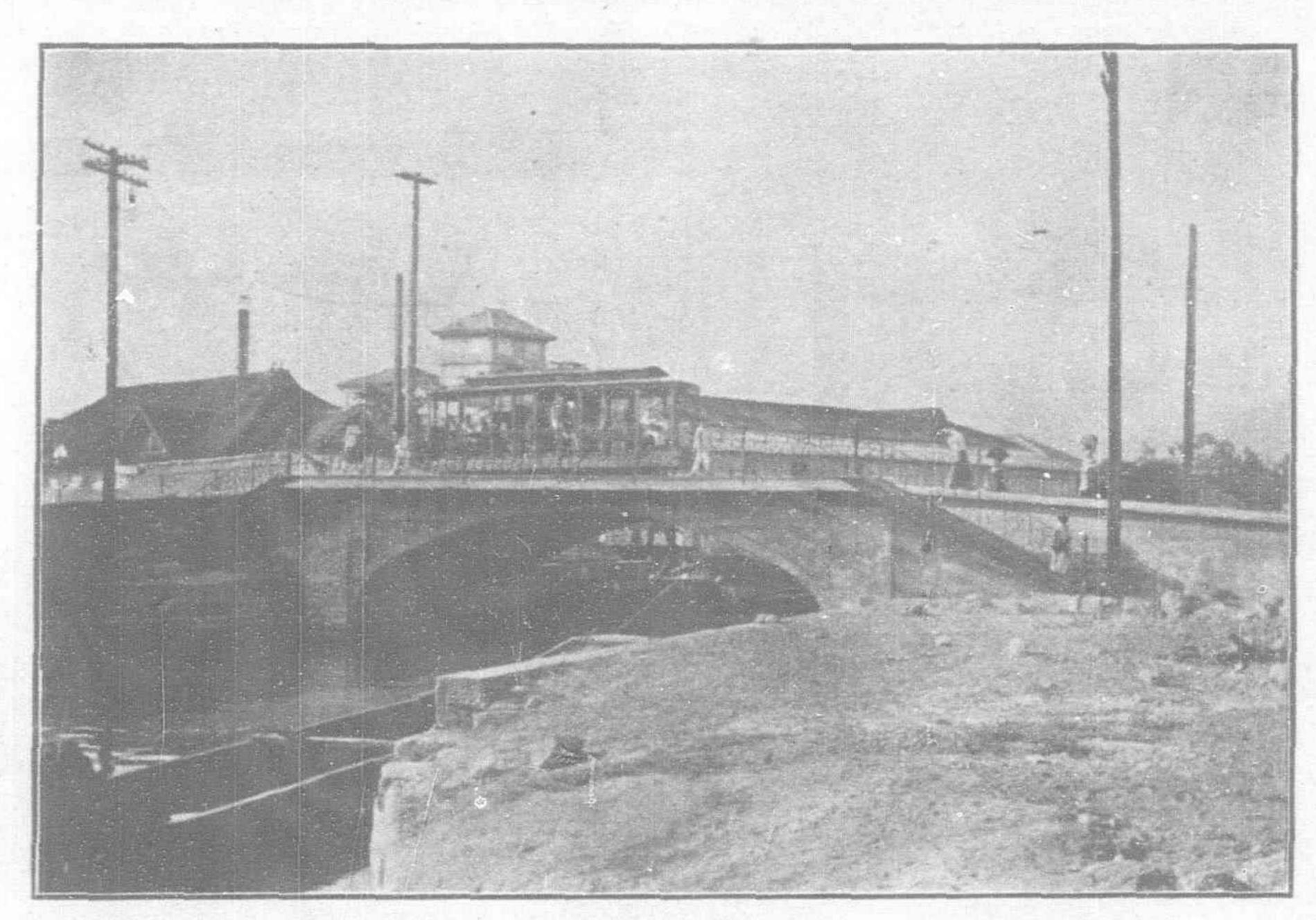
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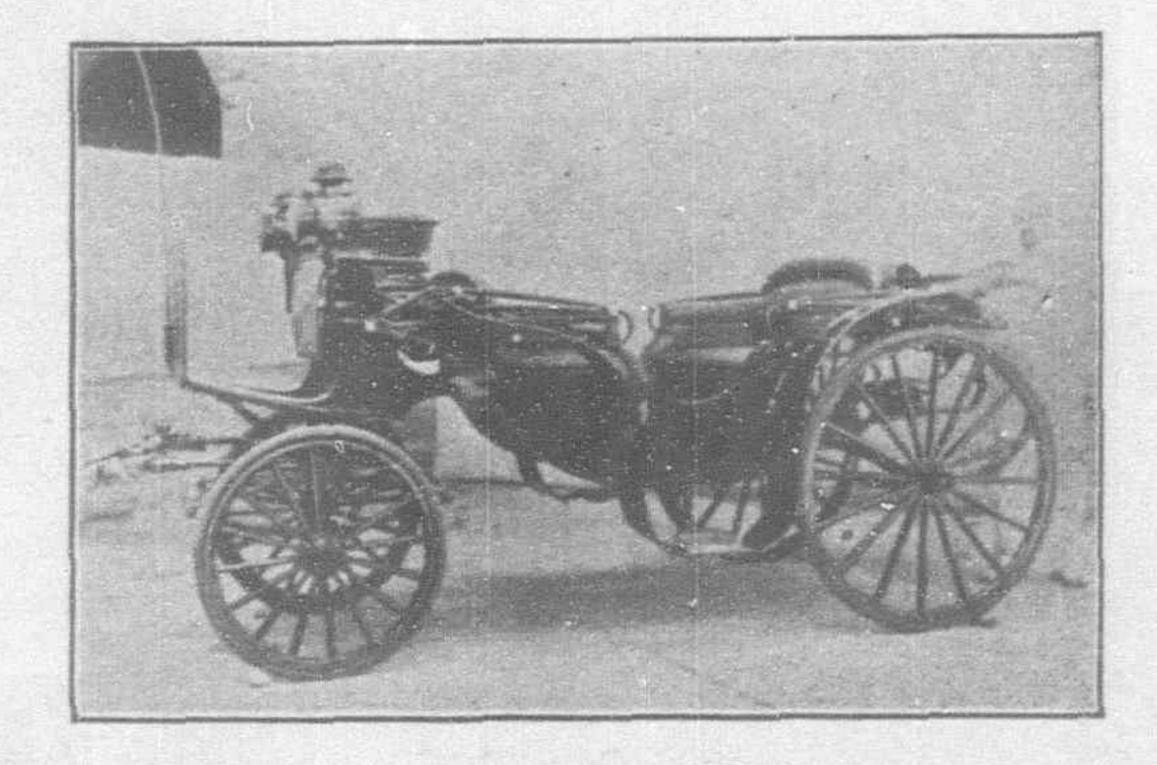
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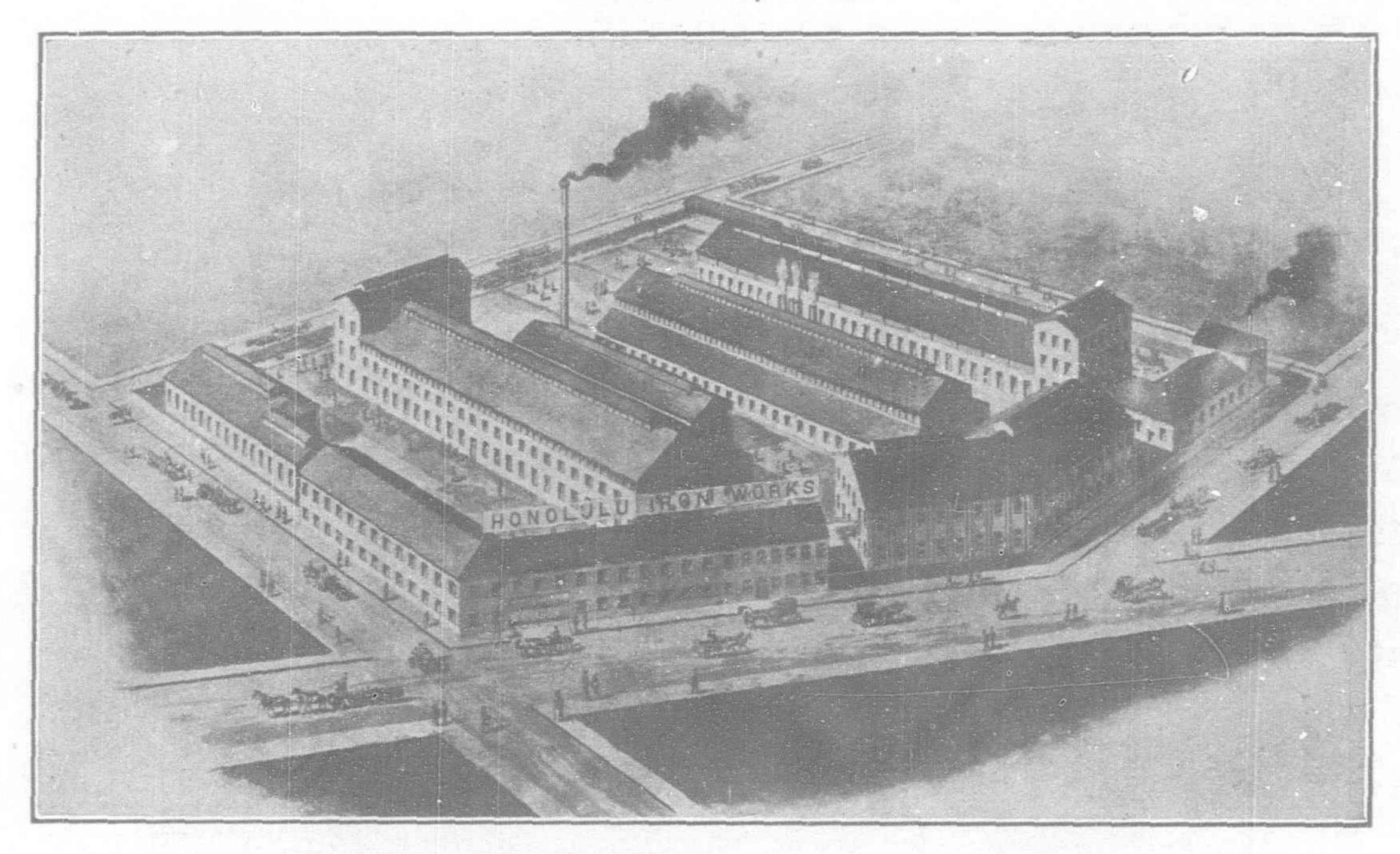
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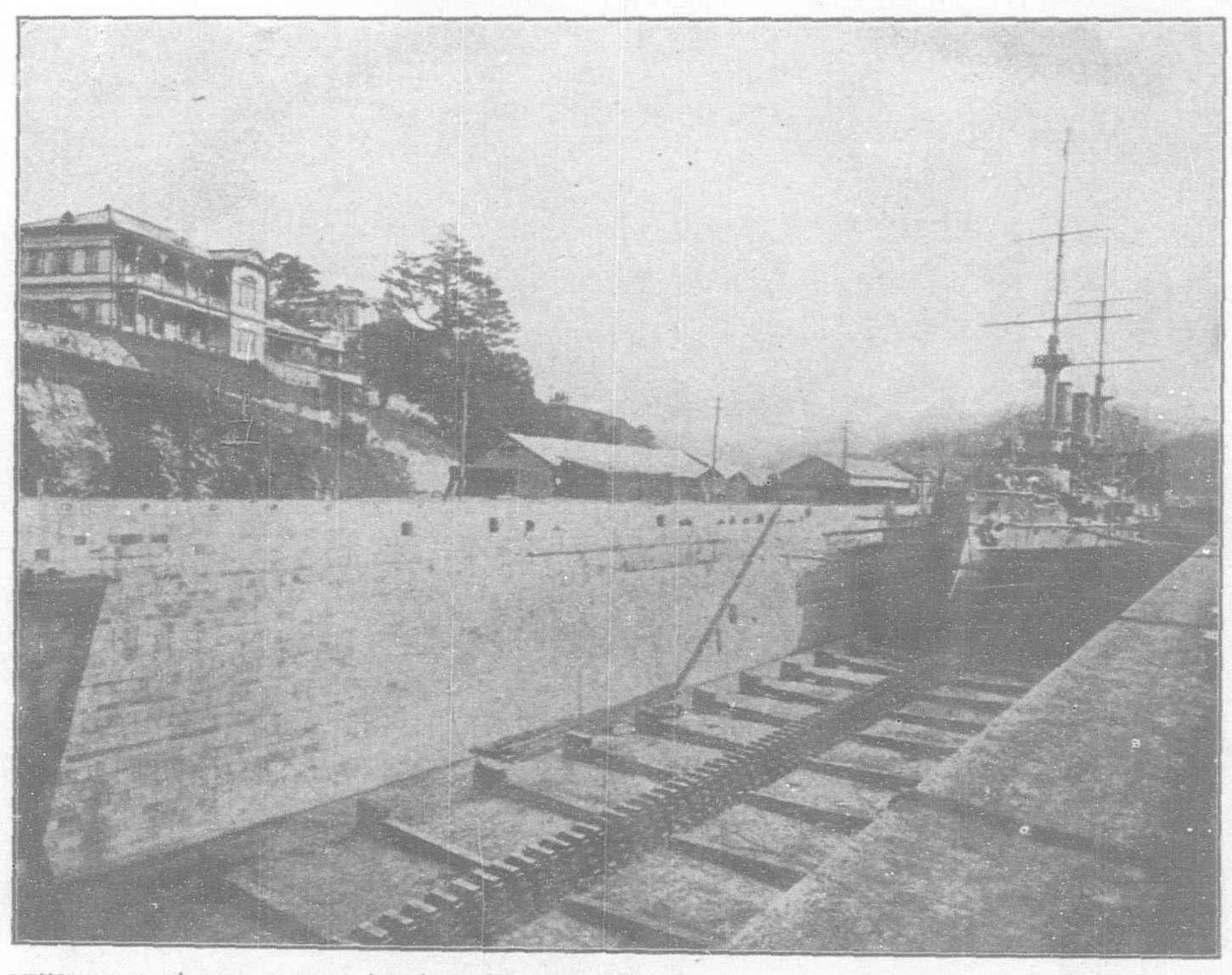


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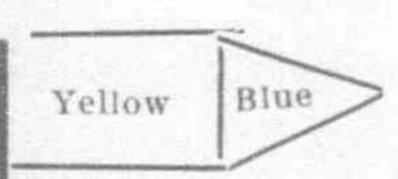
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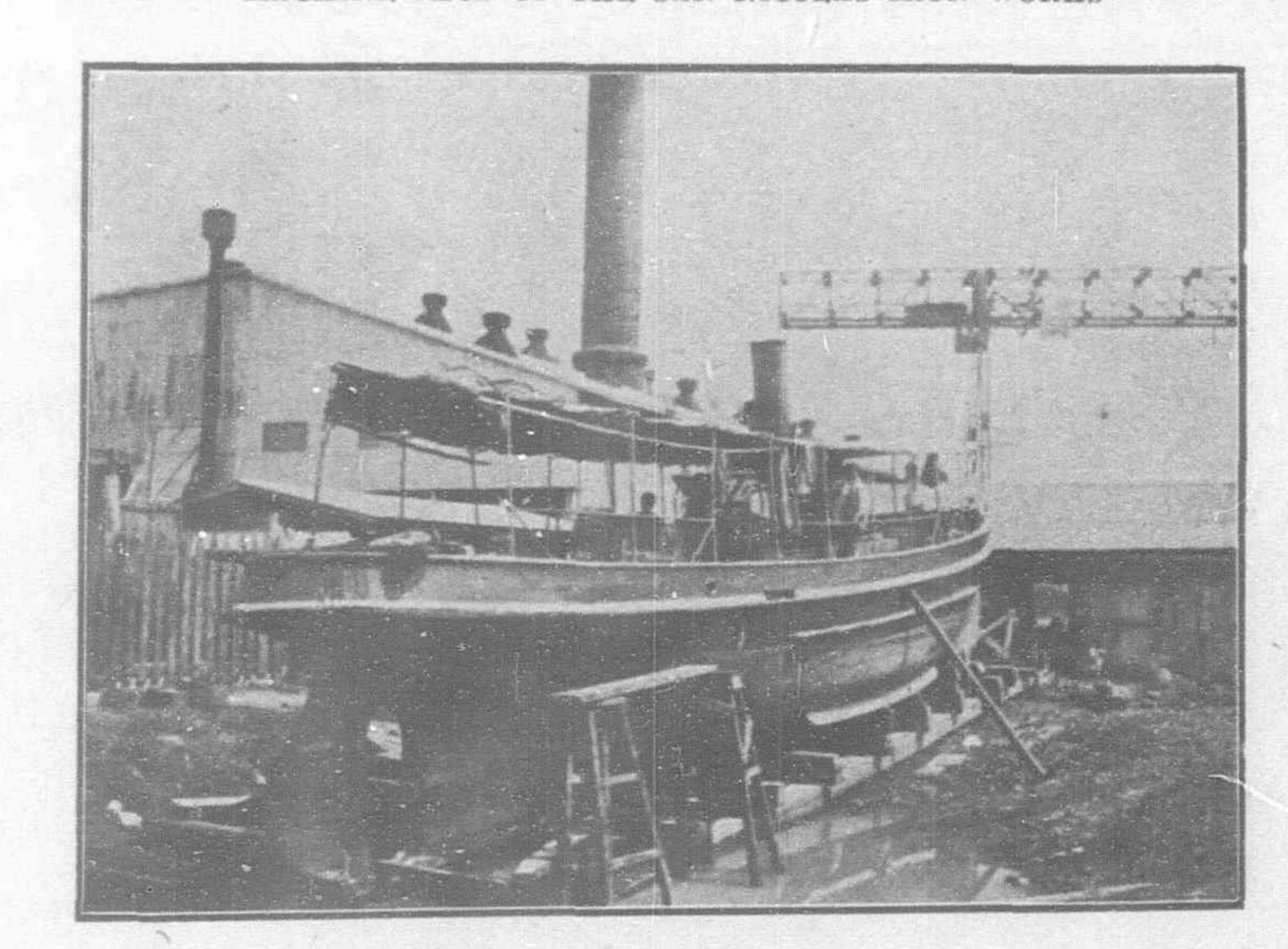
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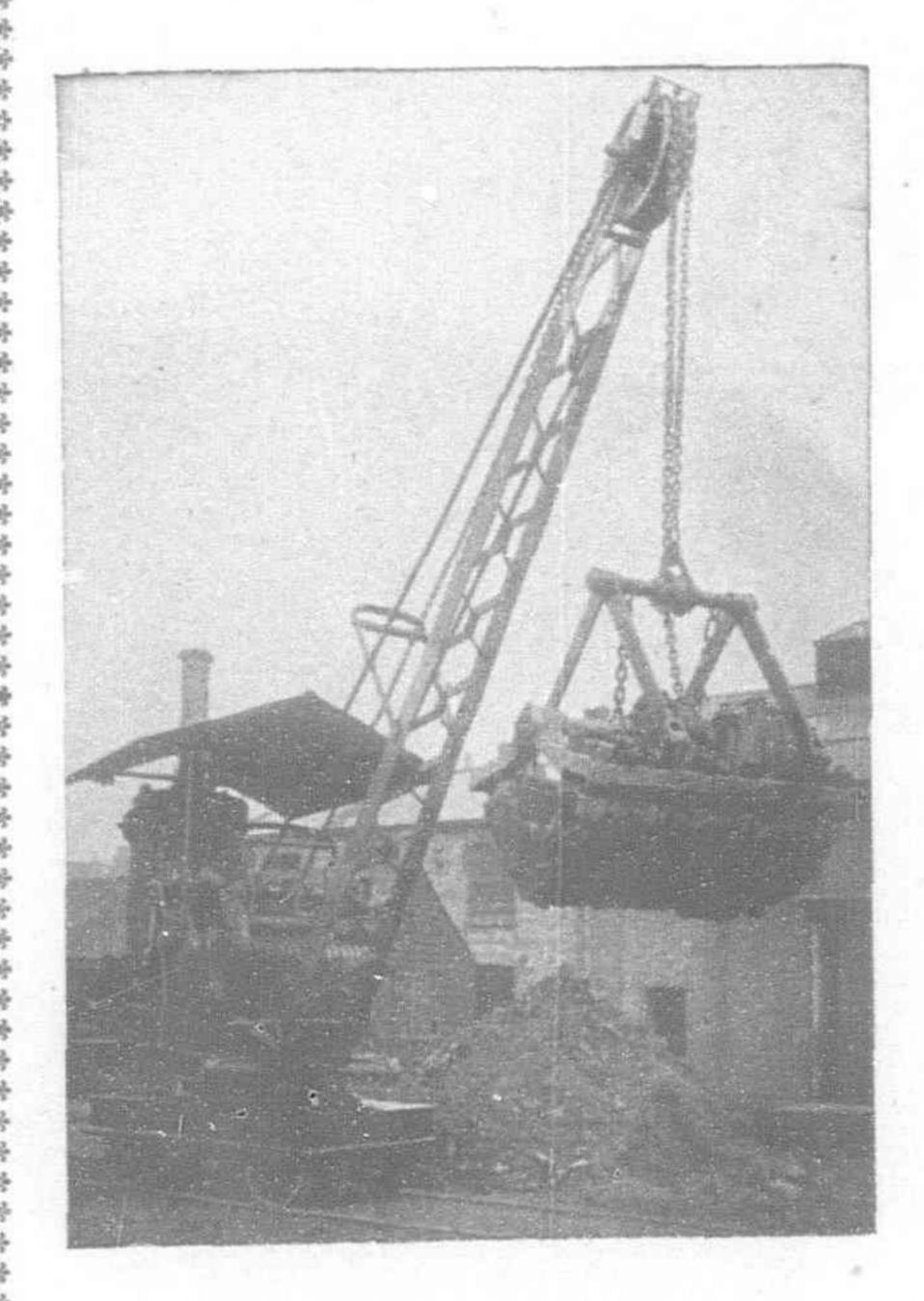
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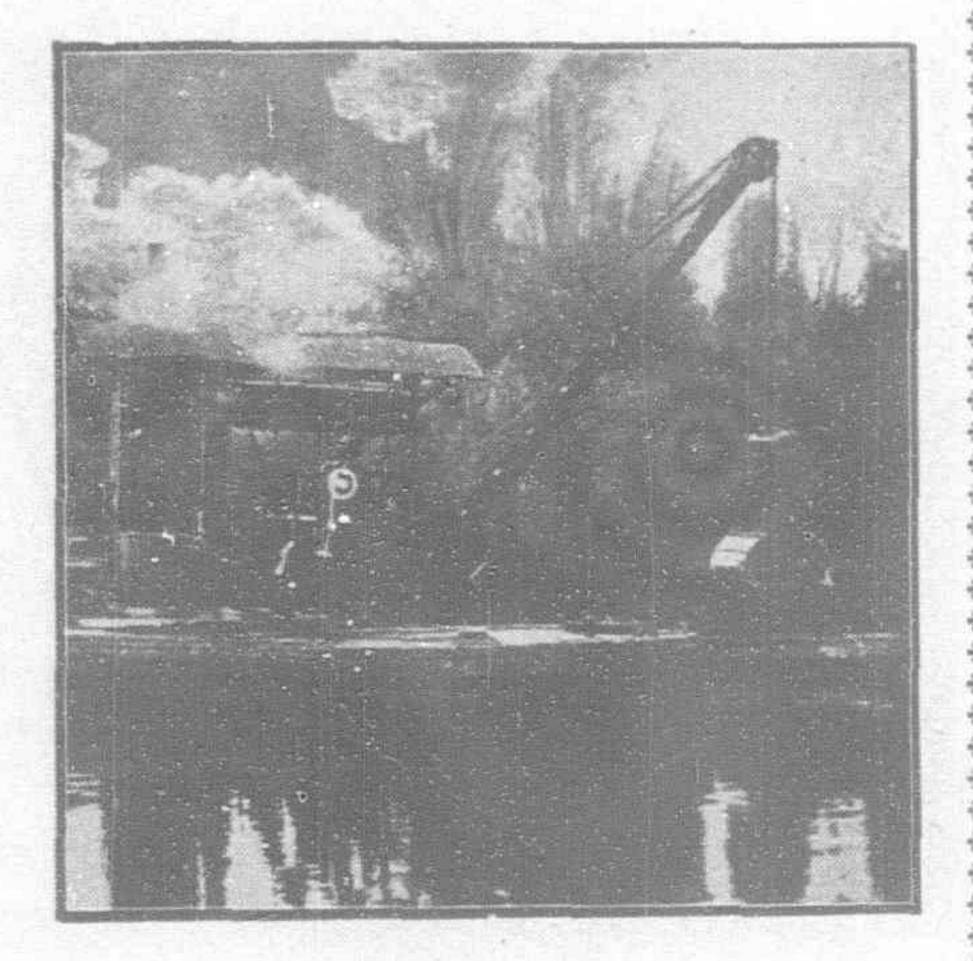
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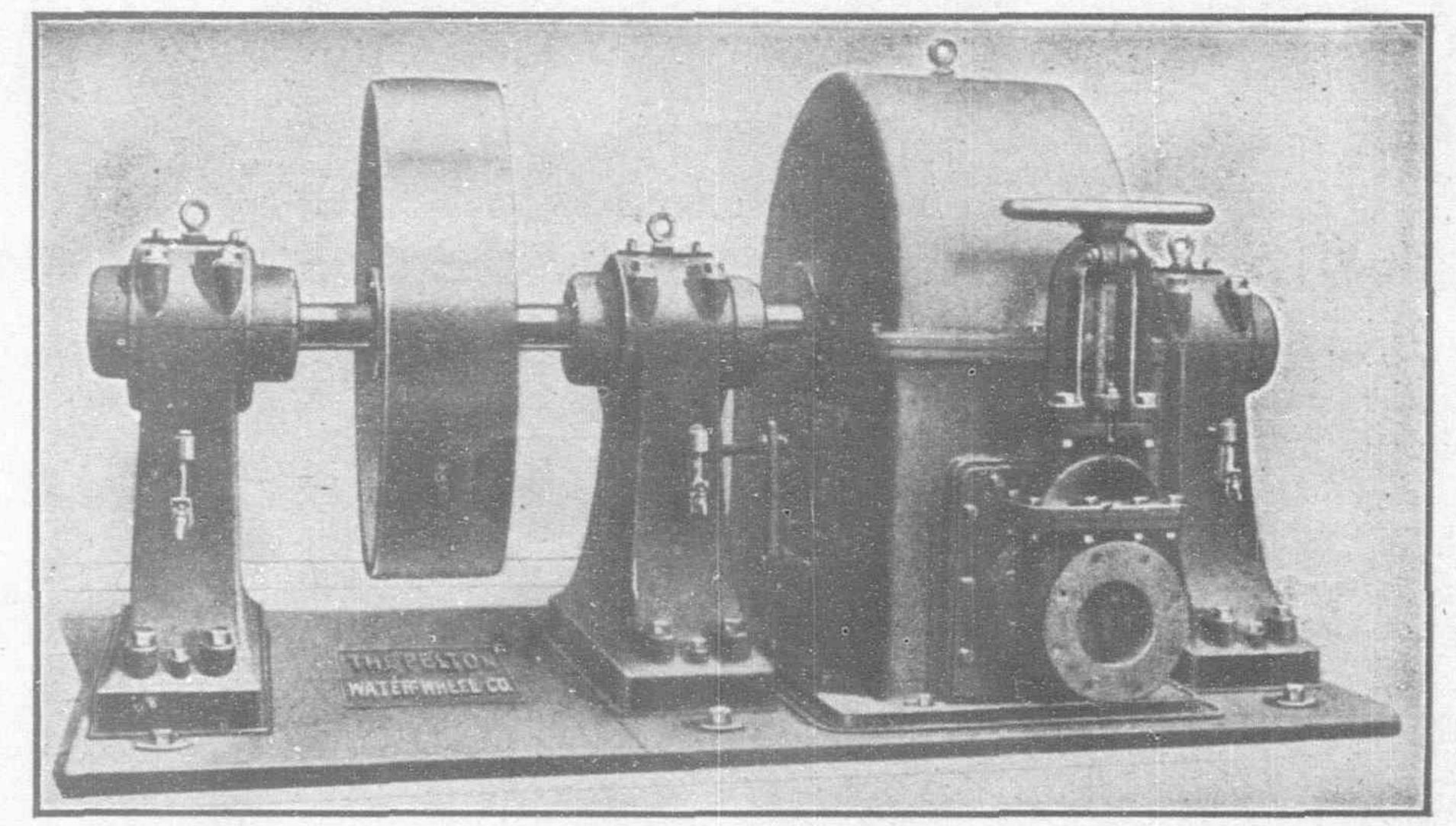
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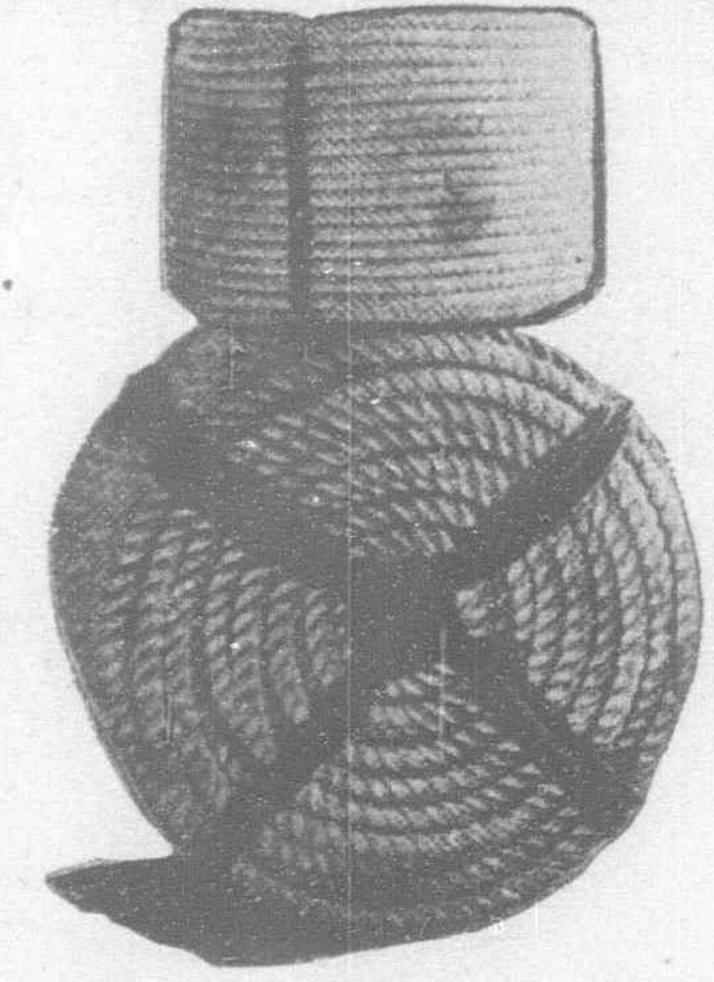
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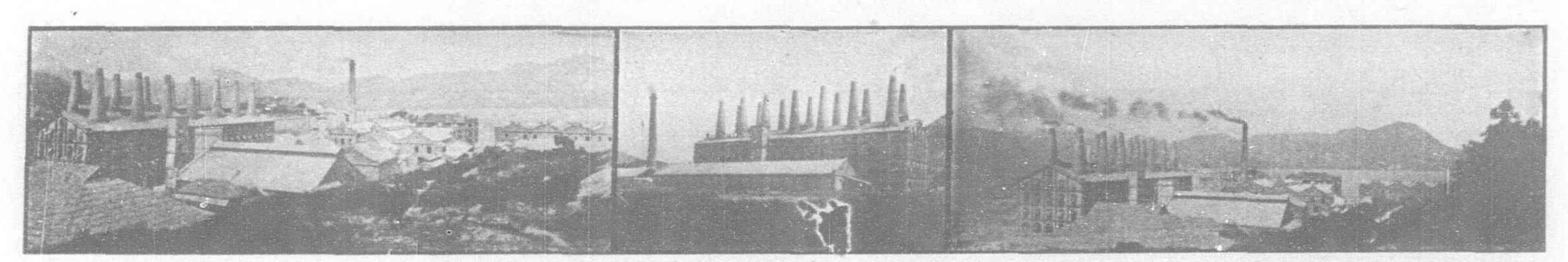
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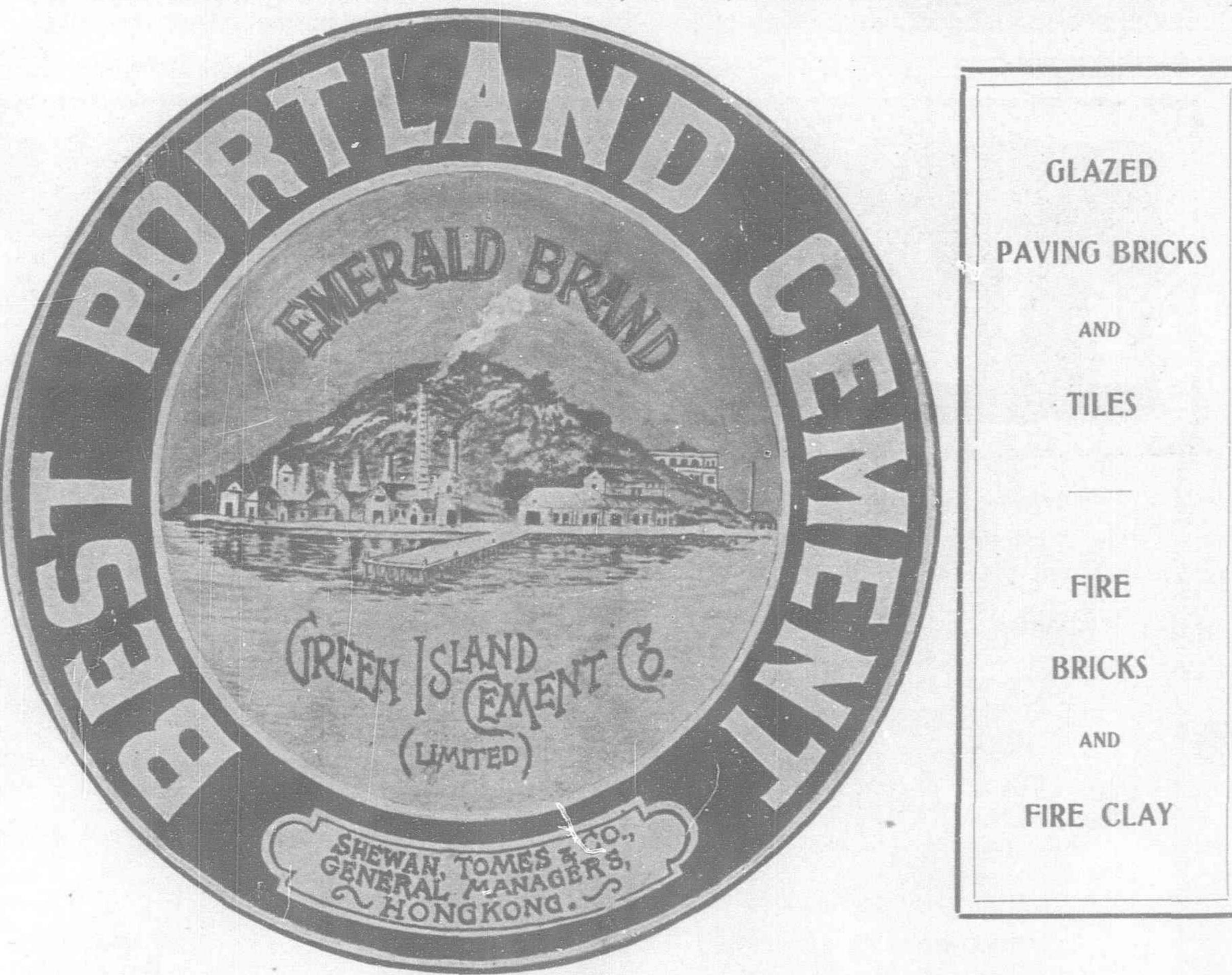
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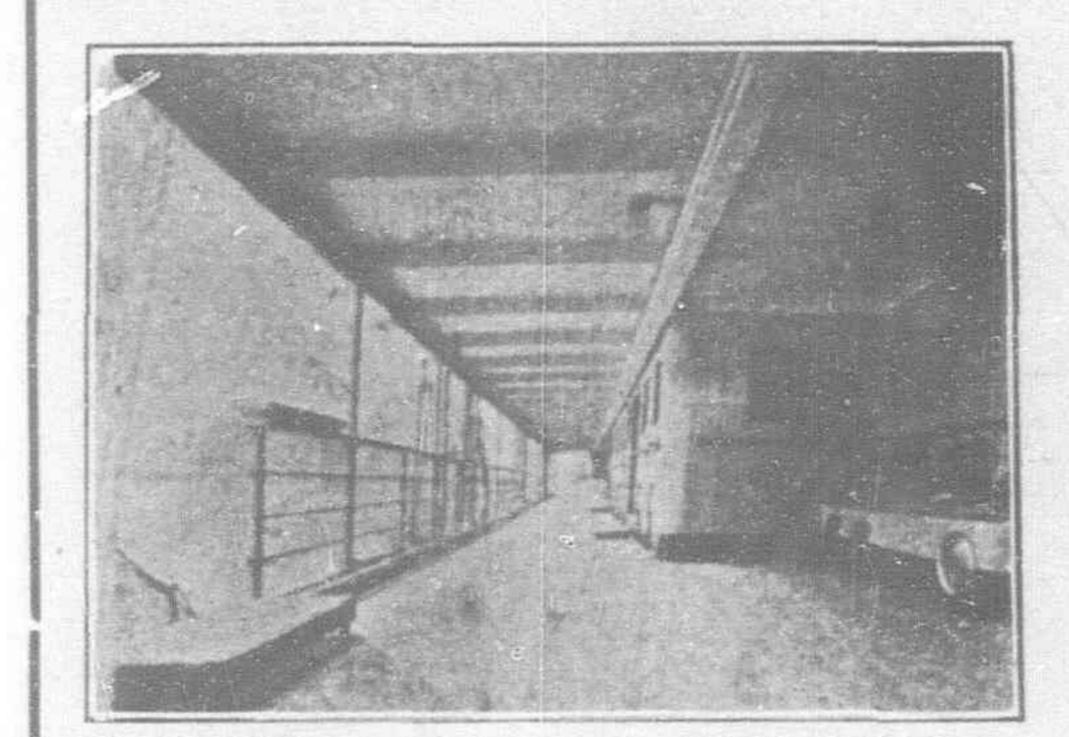
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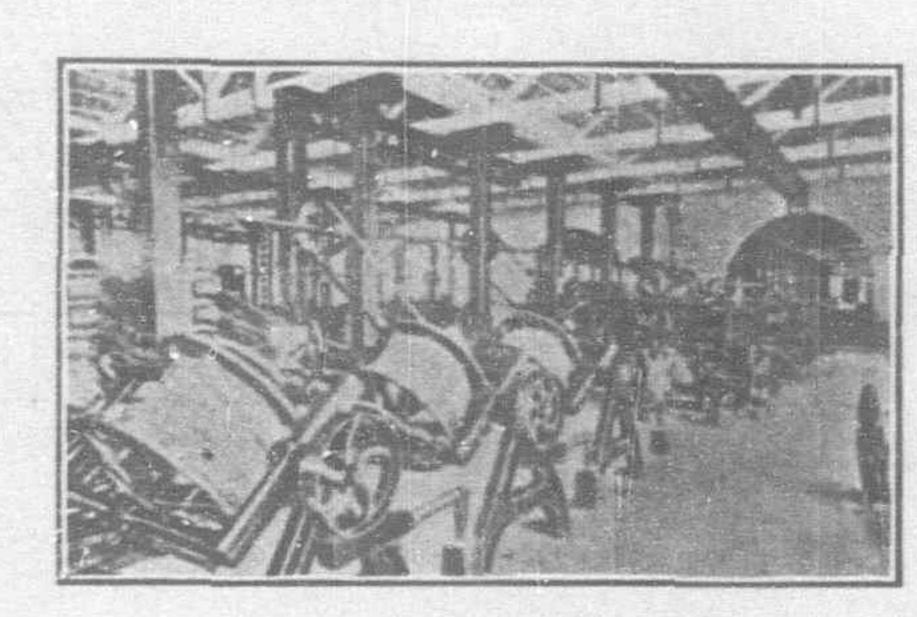
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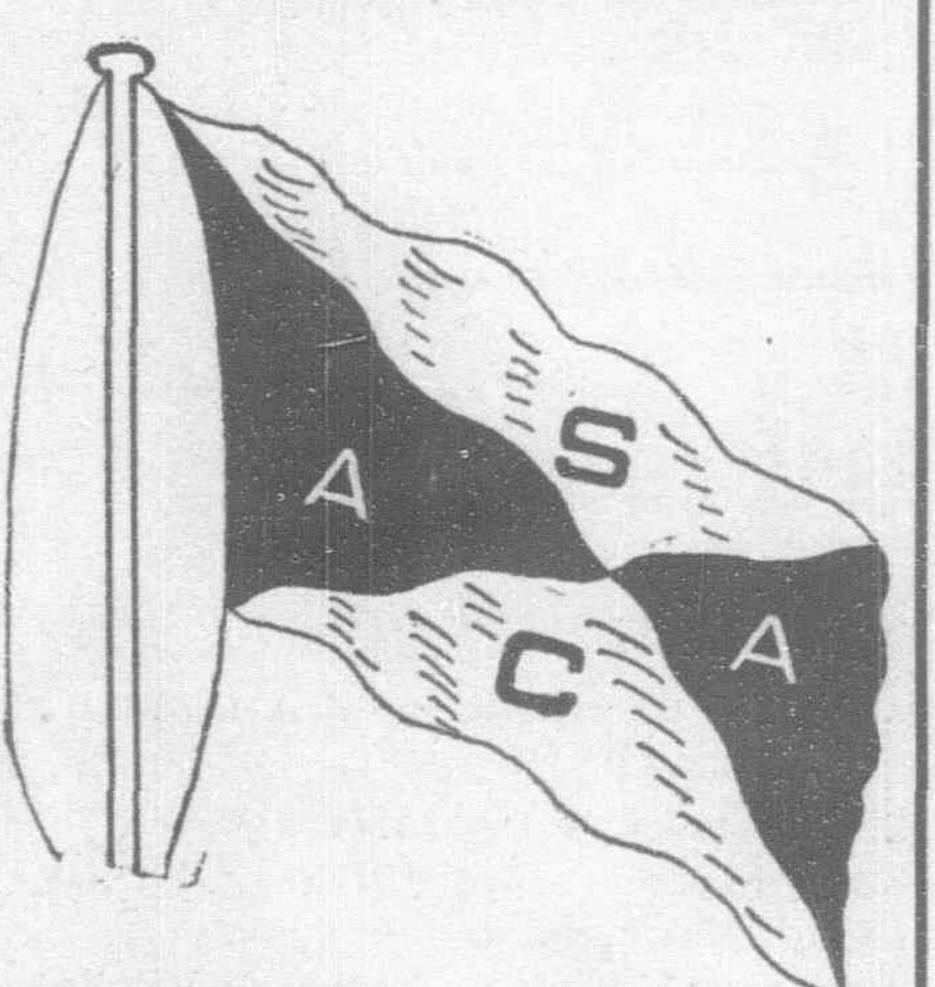
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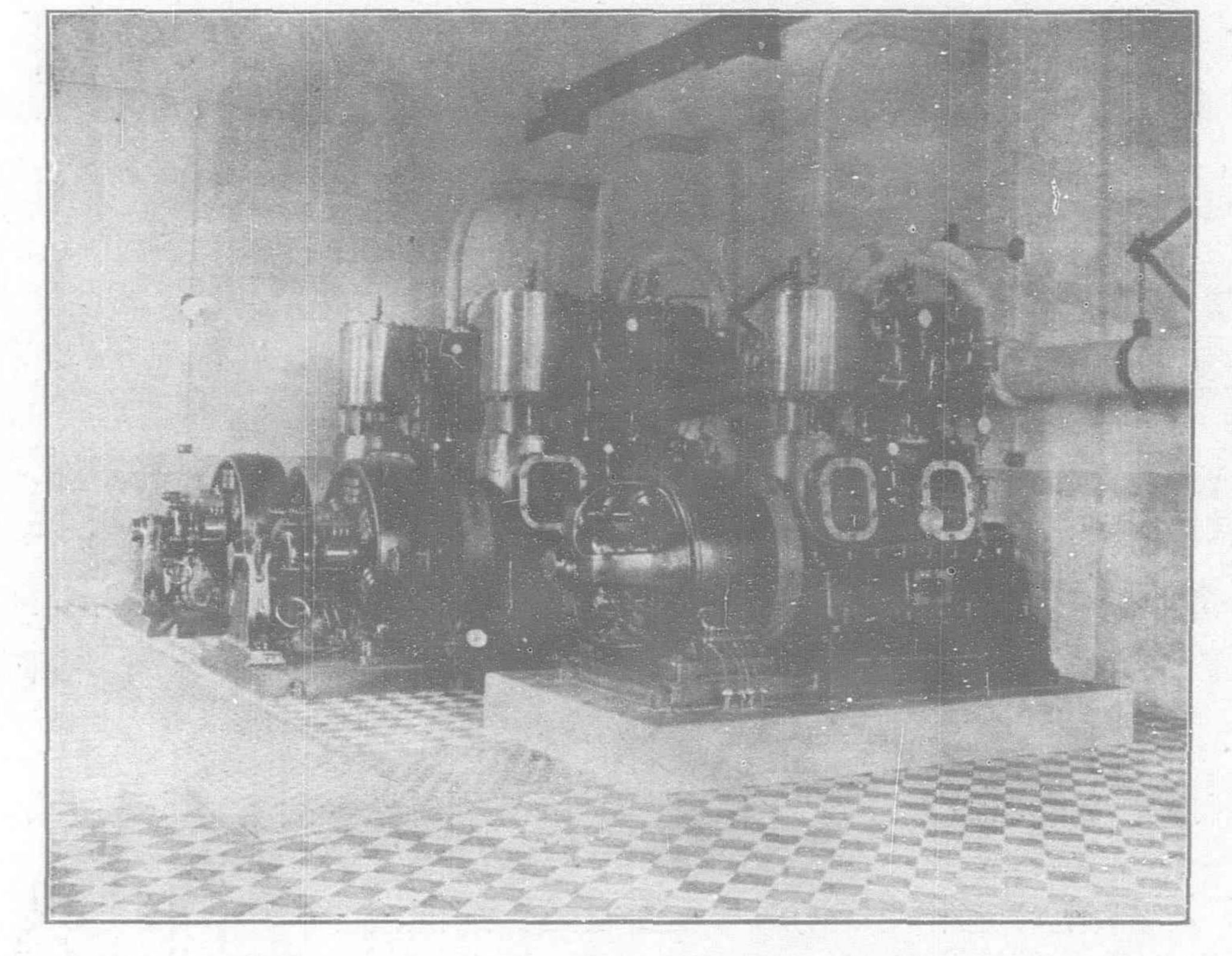
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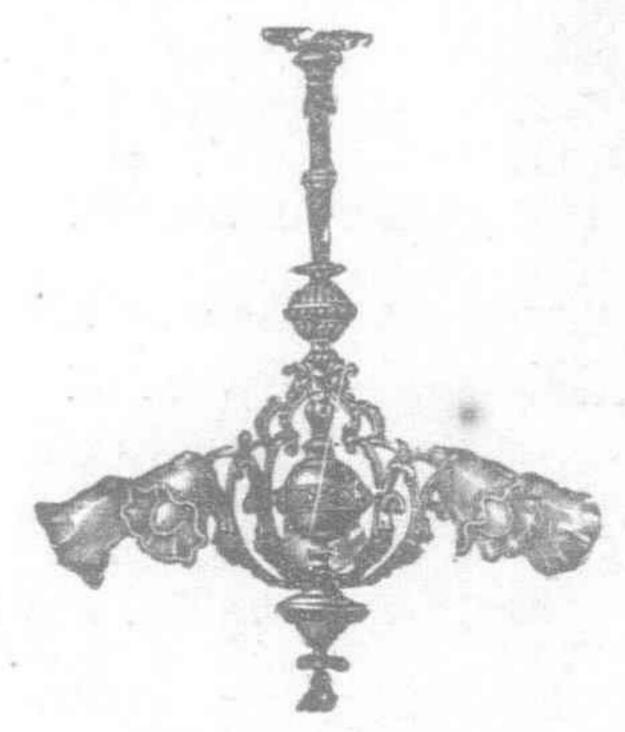
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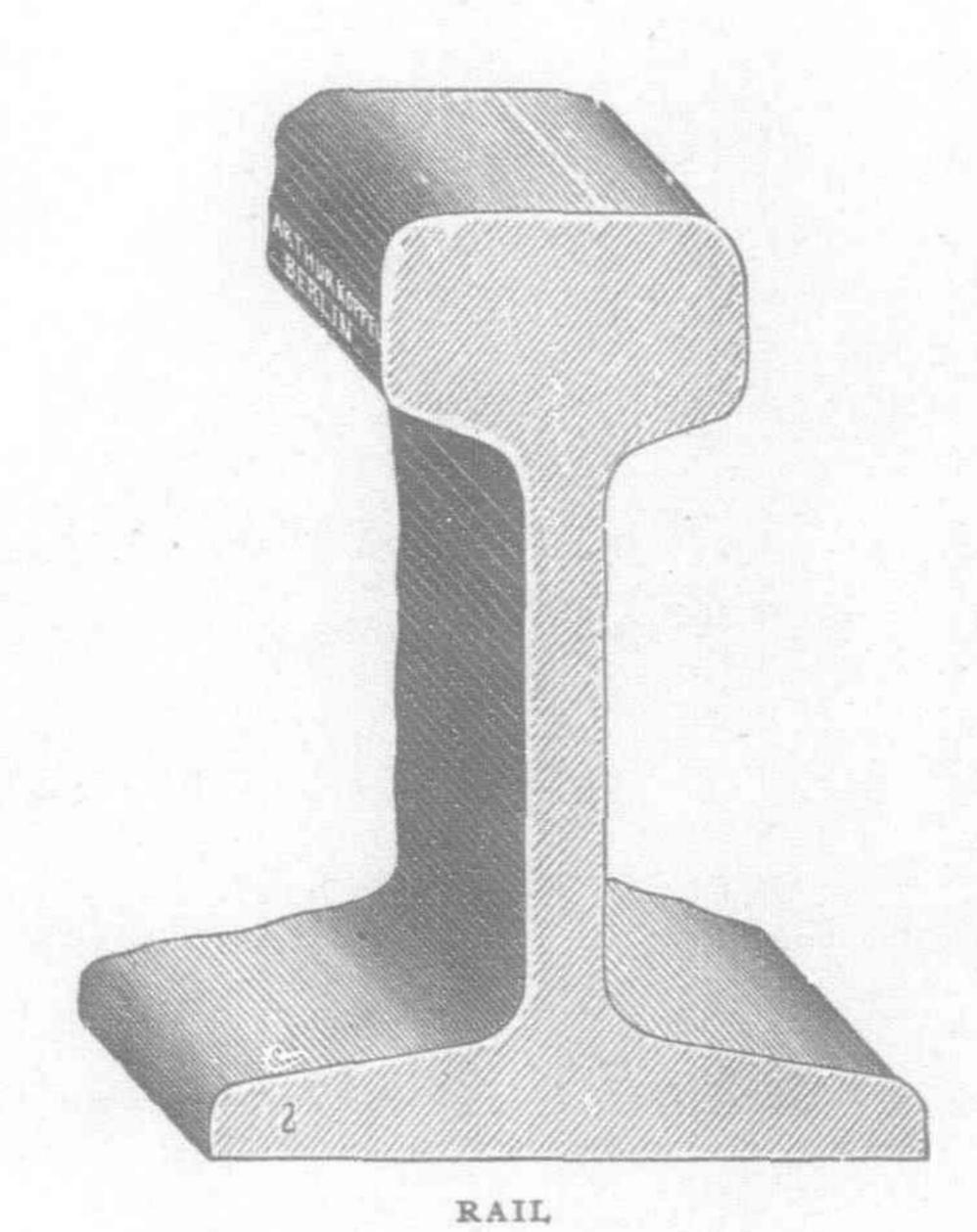
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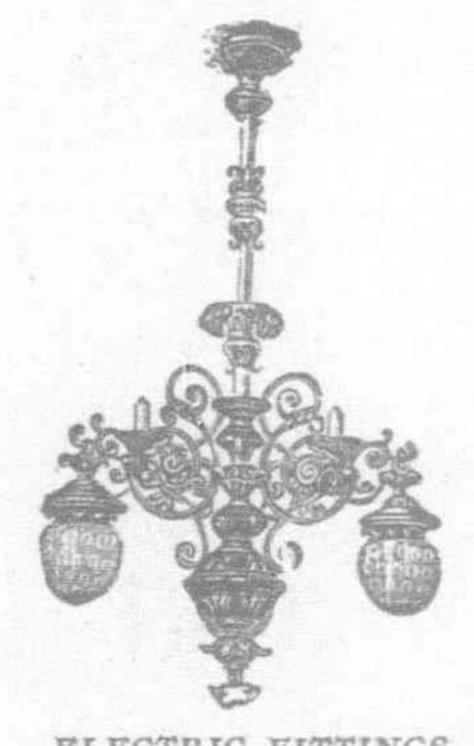
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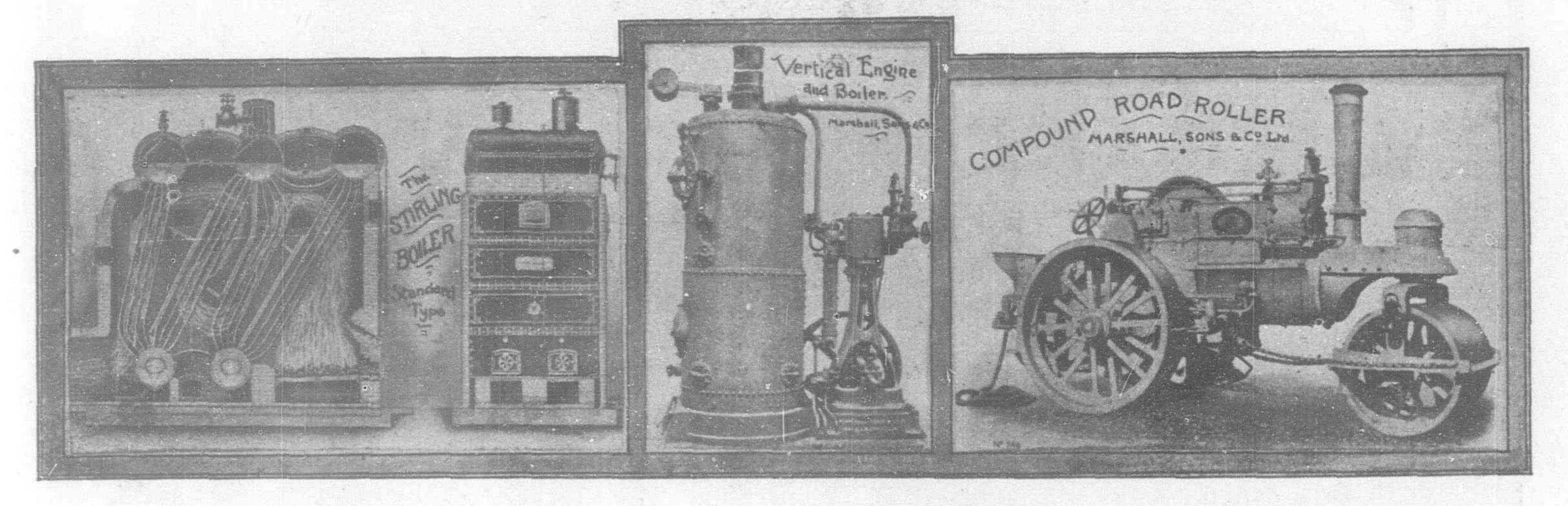
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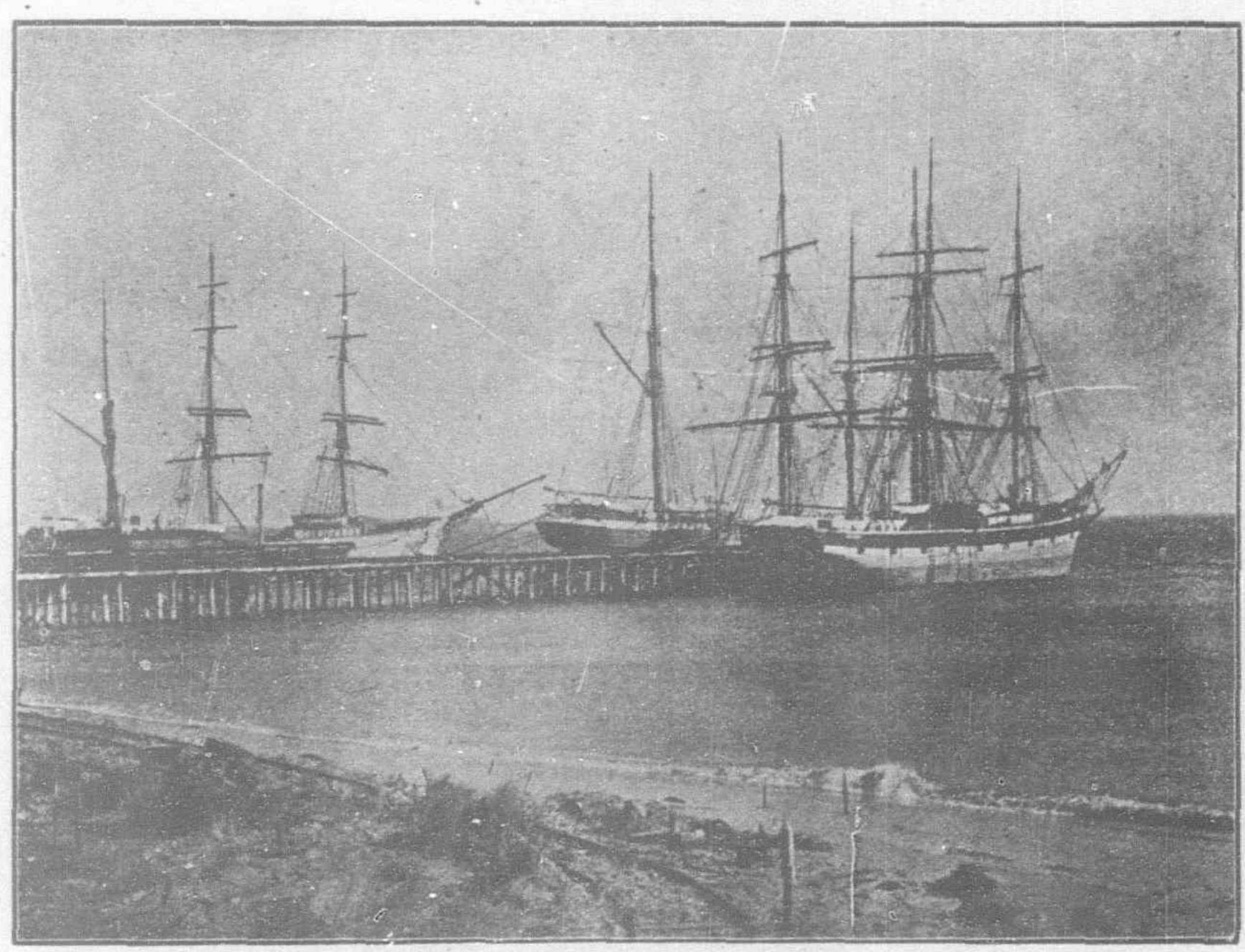
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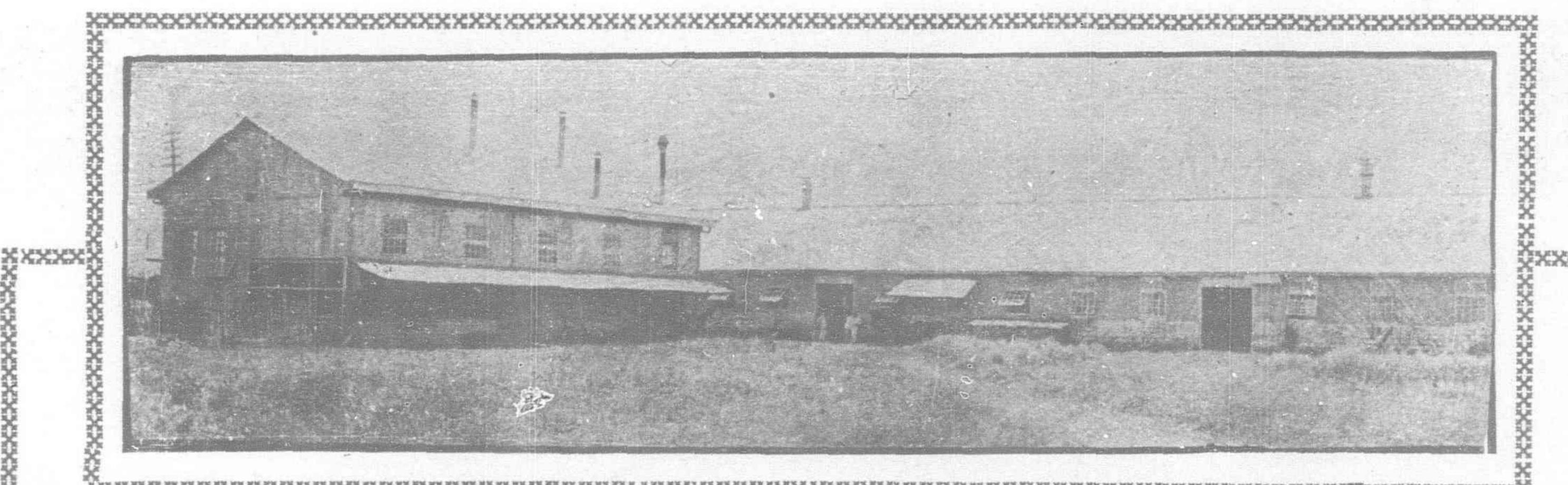
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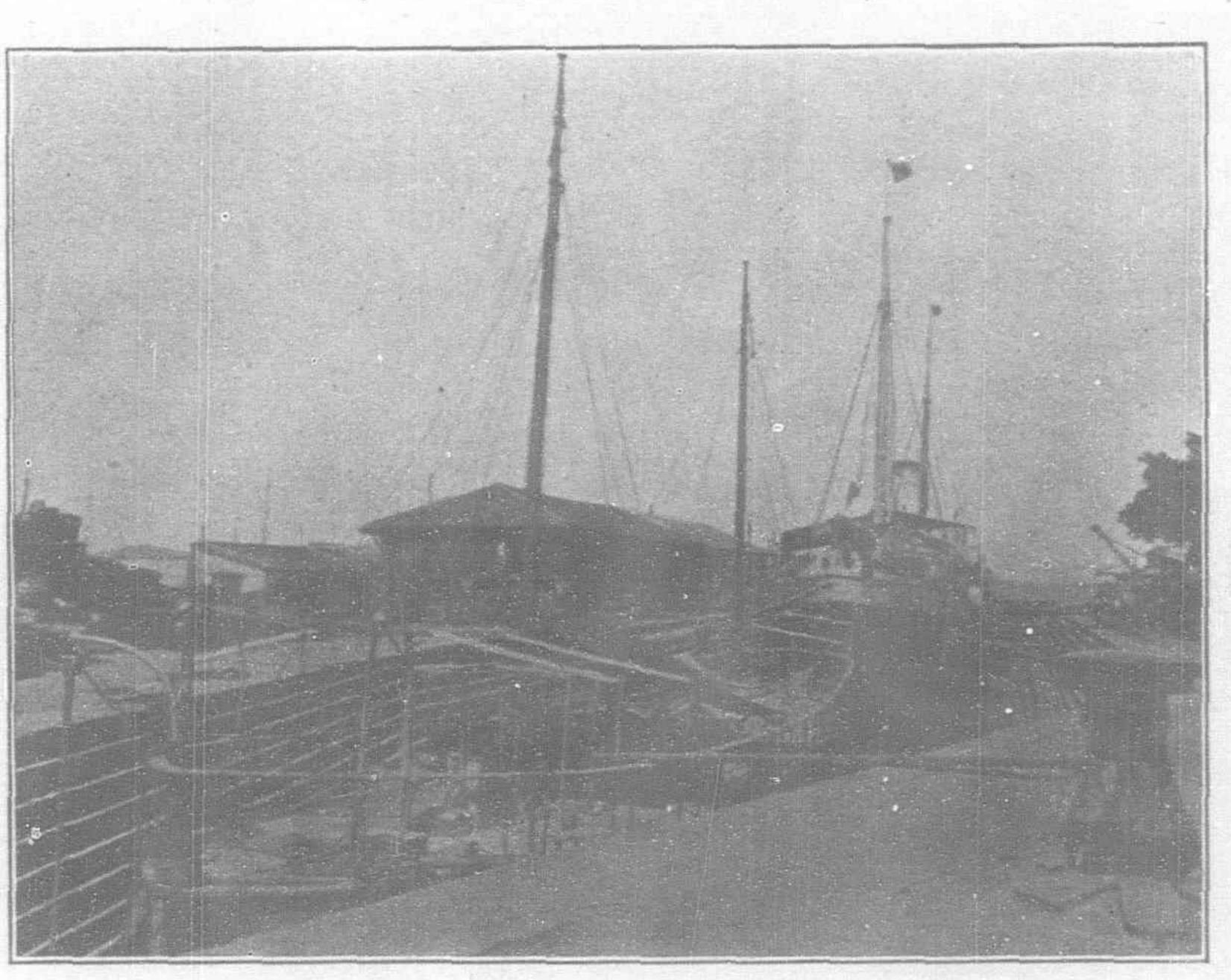
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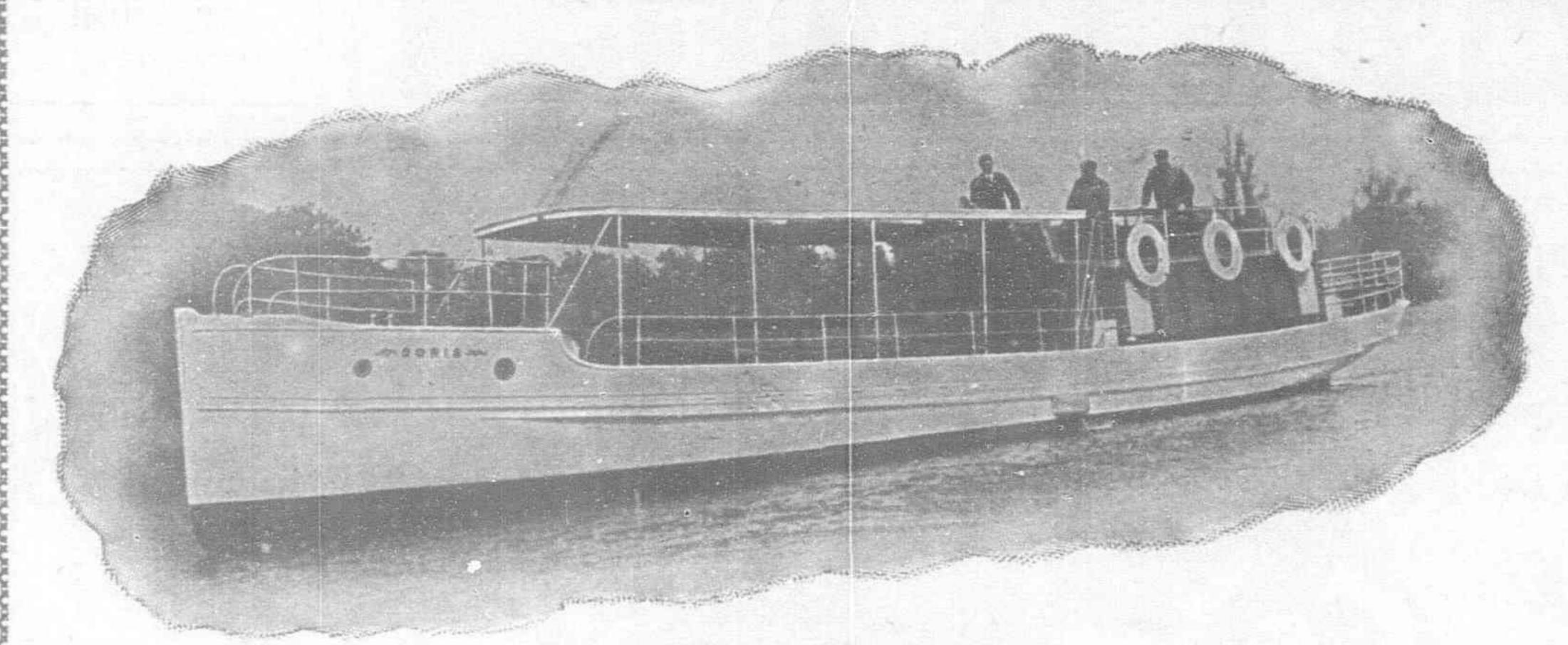
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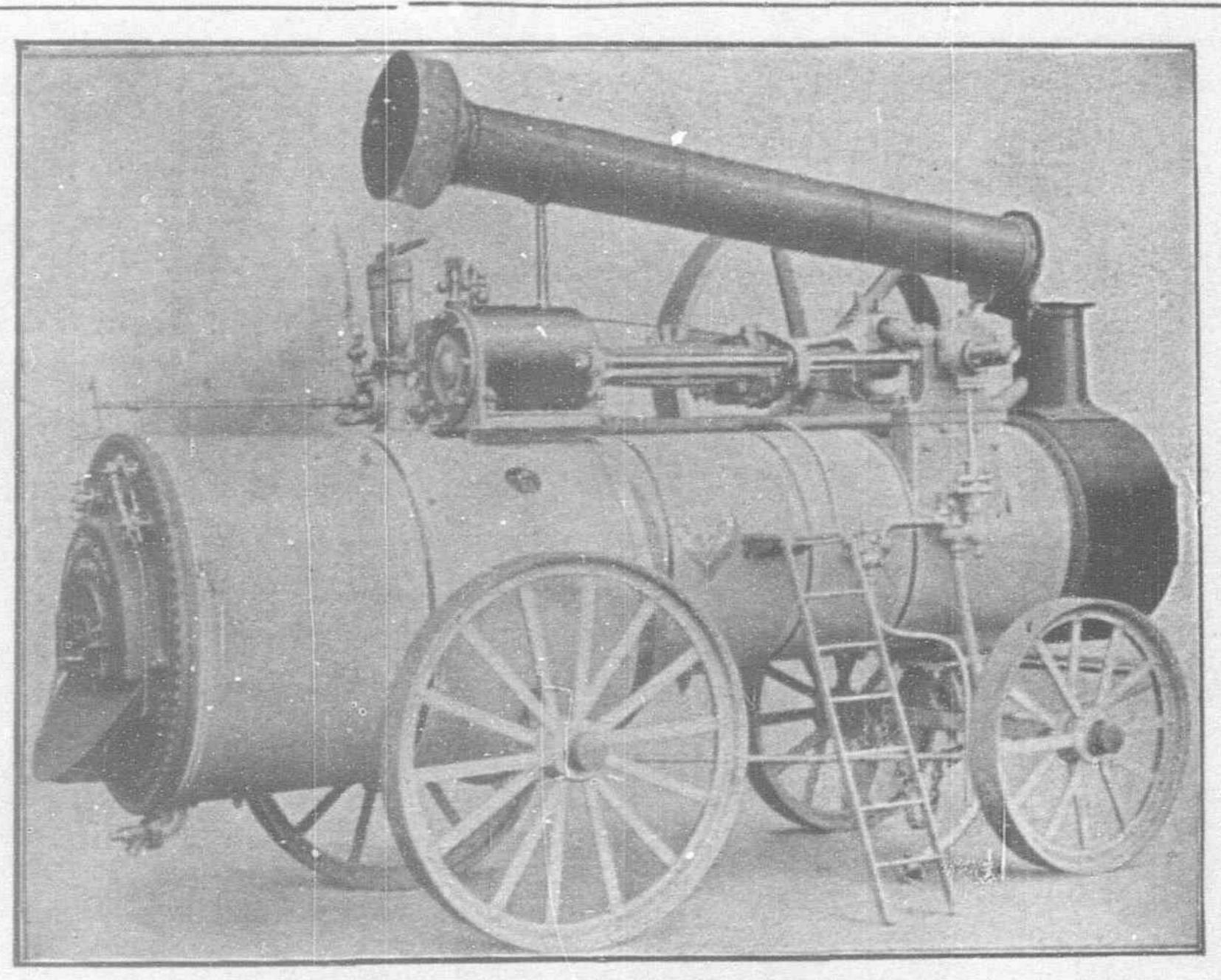
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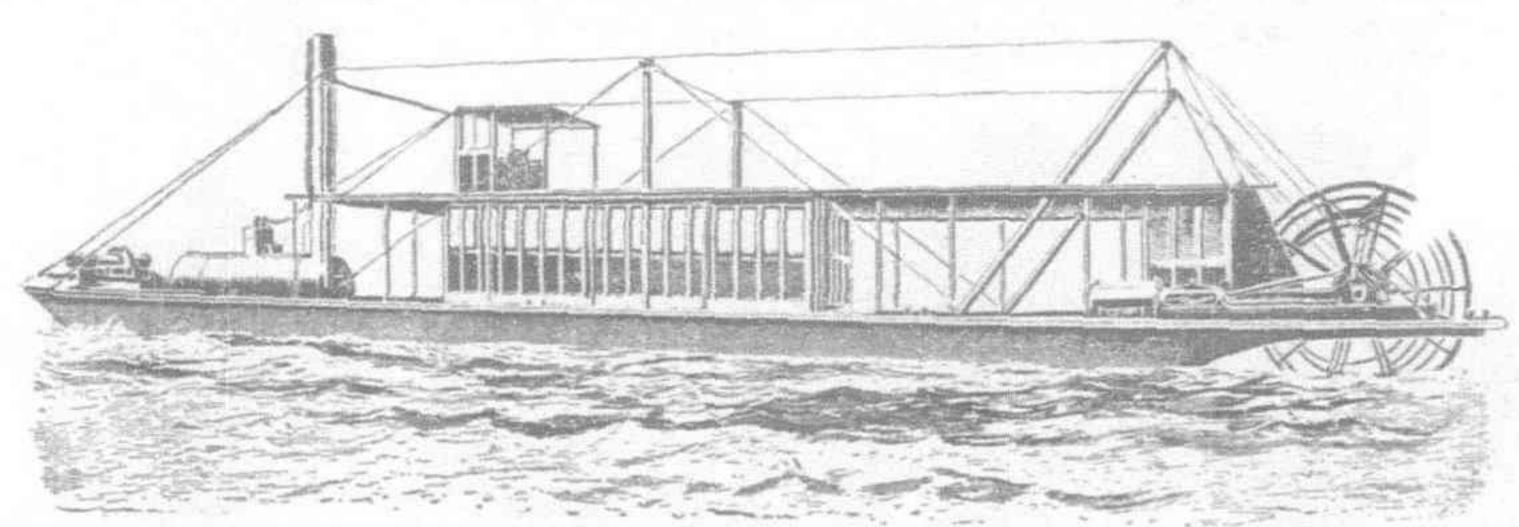
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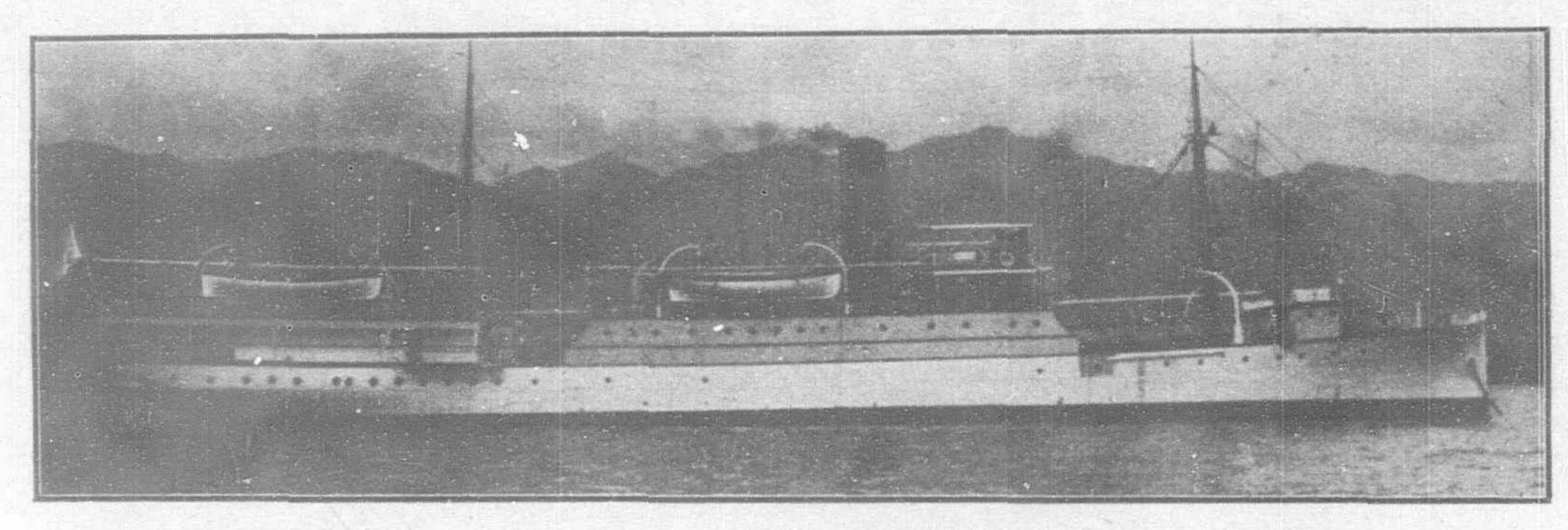
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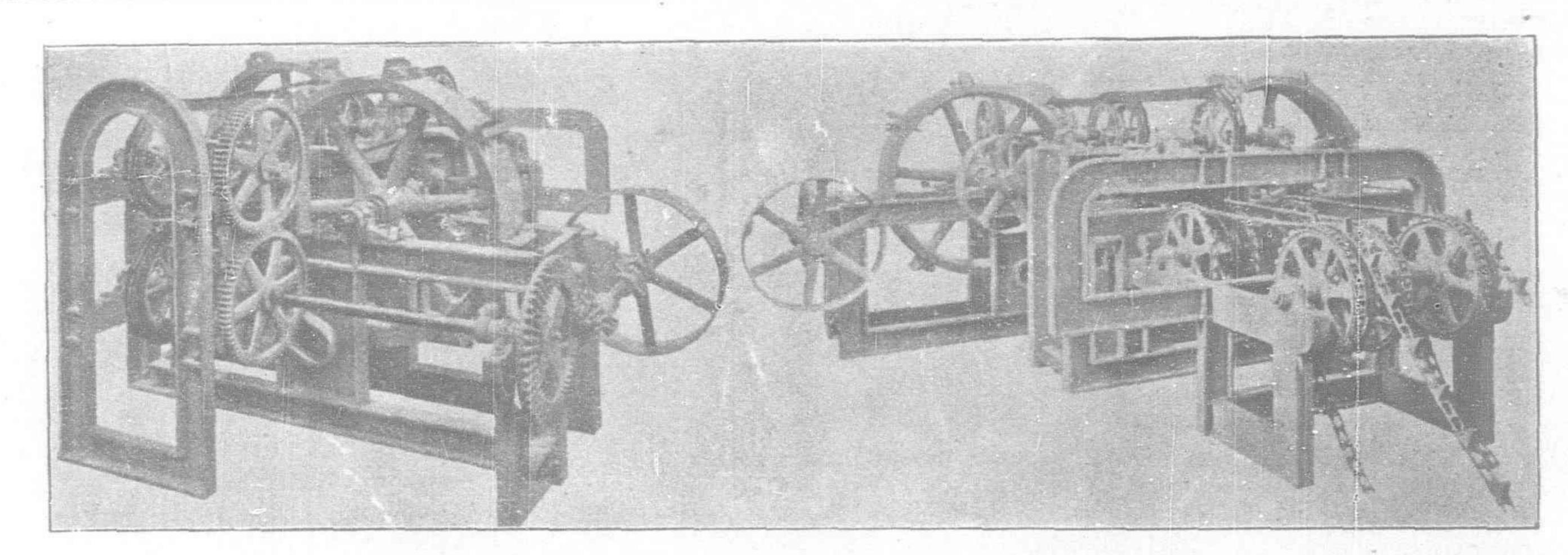
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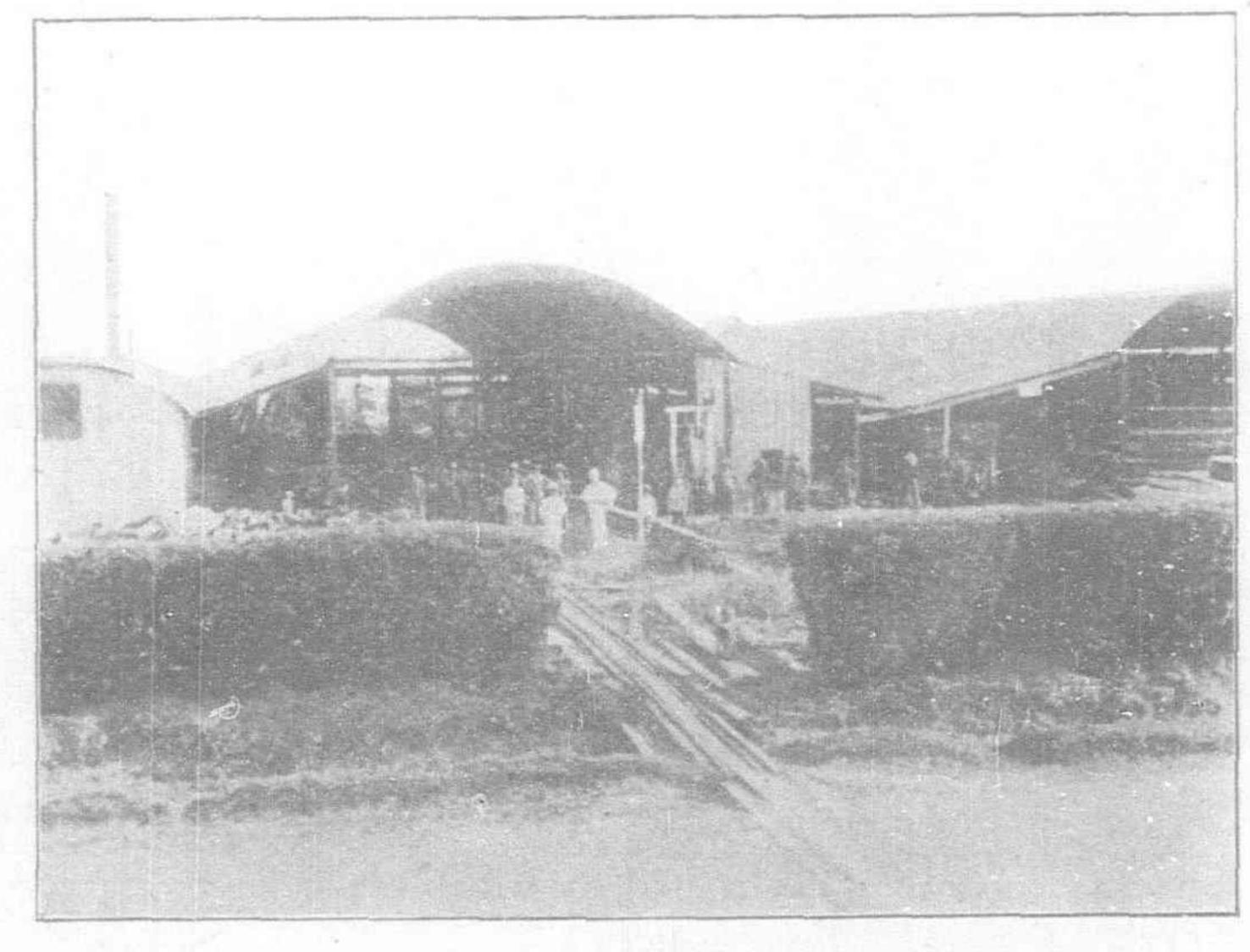
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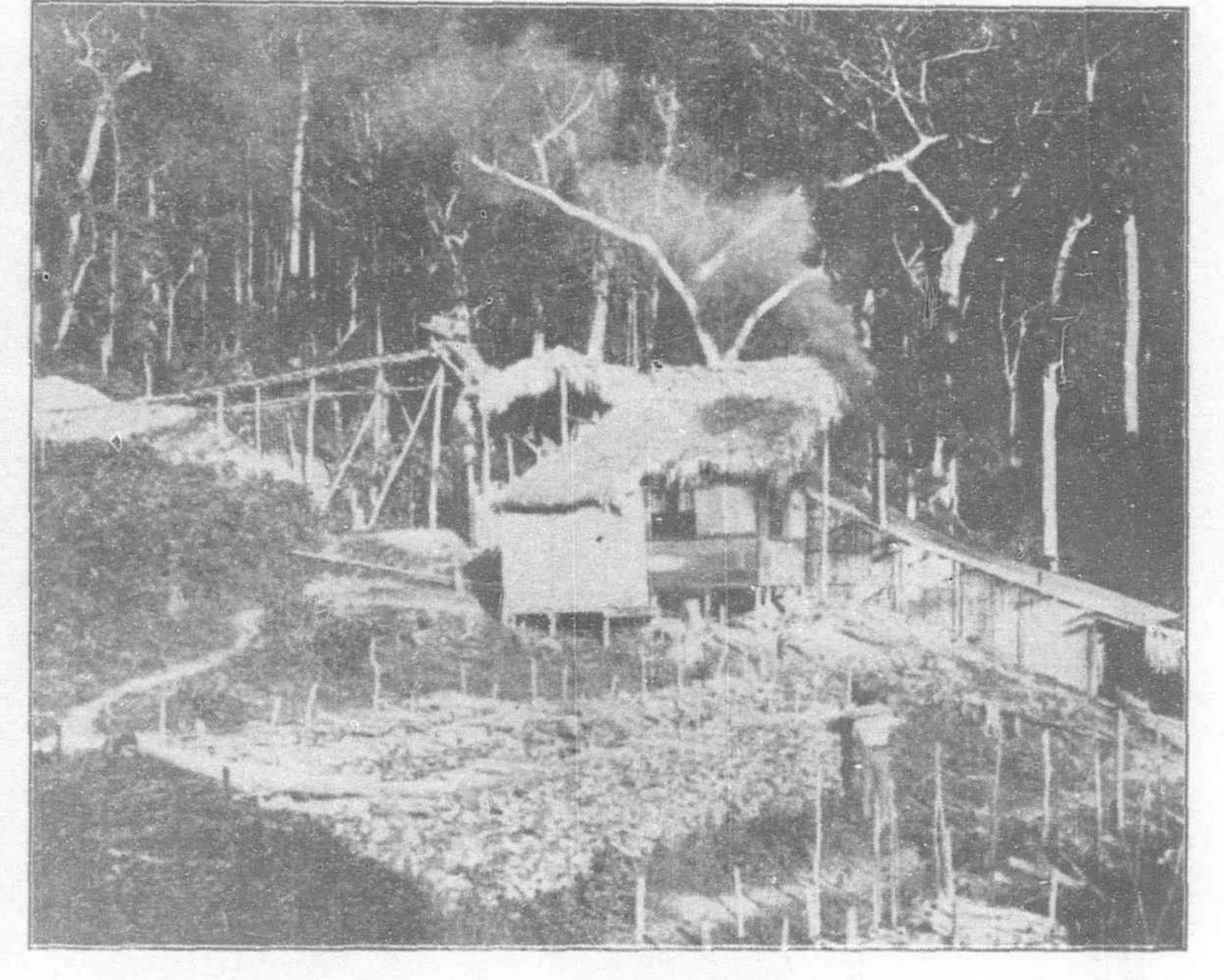
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The property of the Eastern Mining Company is the best developed of those in the Aroroy District, on the Island of Masbate, P. I.

From inspection trips of government officials, from preliminary investigations of the Mining Bureau of the Philippines, and from reports of Mining Engineers, it is conceded that the property is one that will, to the fullest degree, justify further development of the mine, and the installation of a suitable plant to treat the ore. There is ore enough "blocked out," in the full engineering significance of the term, to warrant the installation of a plant. From ore tests made by responsible engineers, it is found that there are no undue difficulties in the way of rapid and cheap treatment.

Conditions of mining on the property are excellent. The mines are opened by tunnels and are self-draining. There is ample height above the mine levels for the working of the ore bodies economically and by best methods.

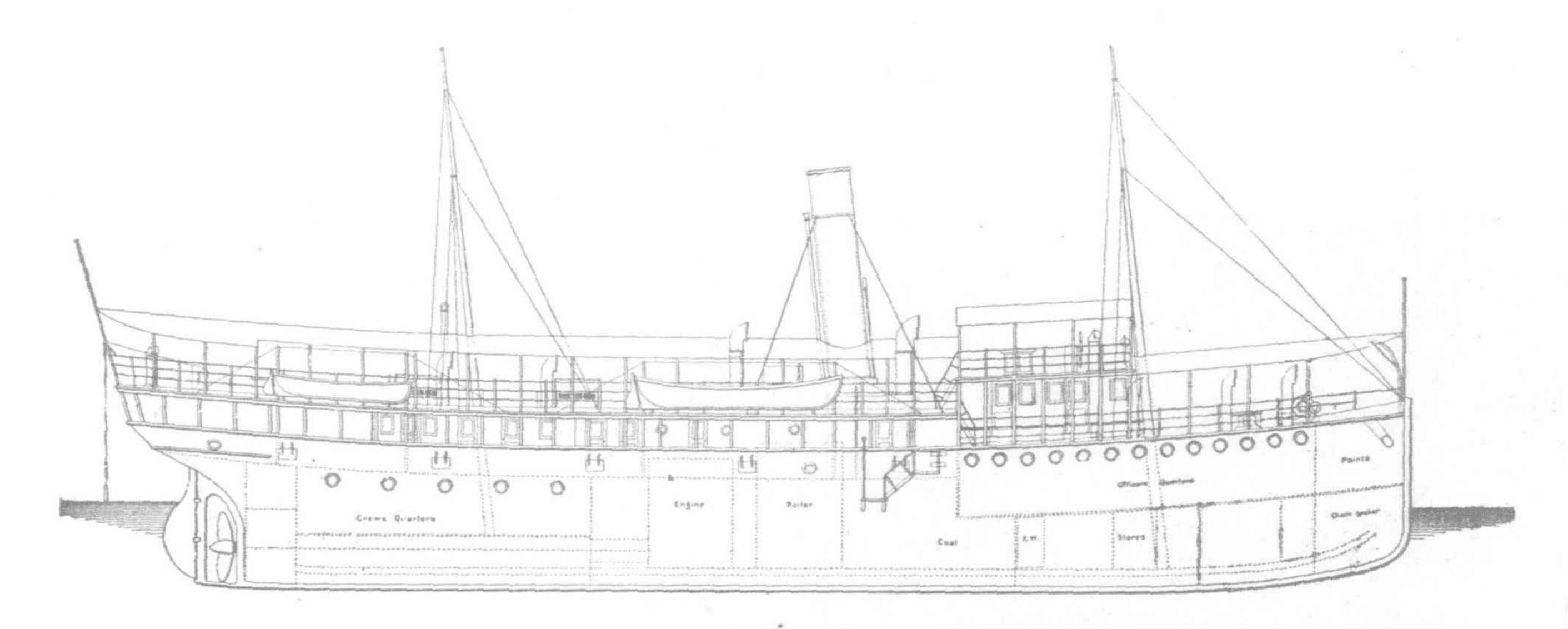
By careful and extensive sampling the values of the ore bodies are assured, and the mine shows ore that can be handled at a handsome profit. The results of the experimental plant show conclusively that estimates and figures are correct and that now the Company is assured of success, by the proper exploitation of the property.

What is needed now is a large milling plant with its increased mine development and for this purpose—for the expansion of the present well proven concern into a large producer,—a limited amount of treasury stock is offered investors at a low figure, for providing the necessary capital to purchase and install a new 40-stamp mill. For particulars and information apply to either Manila or New York Office.

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The Company has SIX GRANITE DOCKS and TWO PATENT SLIPS of the following dimensions:-

NAME OF DOCK OR SLIP	LENGTHON	BREADTH AT ENTRANCE	DEPTH OVER SILL AT ORDINARY	RISE OF TIDE					
	KEEL BLOCKS		SPRING TIDES	SPRINGS	NEAPS				
KOWLOON	Feet.	Feet.	. Feet.	Feet.	Feet.				
No. I Dock, Kowloon	576	86 feet top }	30'	7' 6"	3				
No. 2 Dock, Kowloon	371 264	74' 49' 3"	18' 6" 14'	7' 6" 7' 6"					
Patent Slip, No. 1, Kowloon Patent Slip, No. 2, Kowloon	240	60' 60'	14' 12'	7' 6"					
TAI-KOK-TSUI									
Cosmopolitan Dock	466	85' 6"	20'	7' 6"					
ABERDEEN									
Hope Dock	430 333	84' 64'	23' 16'	7' 6"					

The DOCKS are fitted with every appliance in the way of Caissons, powerful Centrifugal Steam Pumps, etc., which enable them to be pumped out in three hours.

WORKSHOPS.—The extensive workshops on the premises at Kowloon, Cosmopolitan, and Aberdeen Docks possess every facility and appliance necessary for the repairs of ships and steam machinery. The Engineers' Shops are supplied with a large plant of the latest types of tools in the way of Lathes. Planing, Milling and Screwing Machines, Electric Cranes, etc., etc., and capable of executing the largest class of work with despatch. The Shipwrights' Department has attached to it a Steam Sawmill with Circular, Vertical and Band Saws, and also a complete plant of wood-working Machinery of the most modern and improved type. The Blacksmiths' Shops are equally well furnished with a complete supply of powerful Steam Hammers, Cranes, etc., capable of forging stern posts and crank and straight shafting of the largest size.

Powerful Lifting Shears with steam purchase at two of their Establishments stand on a solid granite scarcely standard of the largest size.

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The Company is prepared to tender for the construction of new vessels in either steel, from or wood, having already built about 400 of varying sizes up to 3,000 tons; also to execute all kinds of ship work at lower rates and with greater despatch than any establishment in the East. Every department is under the close supervision of experienced European foremen.

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BOILER-MAKERS' DEPARTMENT.—The Company, in addition to executing repairs, is prepared to tender for new boilers to steamships for the construction of which it possesses special facilities, including powerful punching and shearing machines, hydraulic rivetters, etc.

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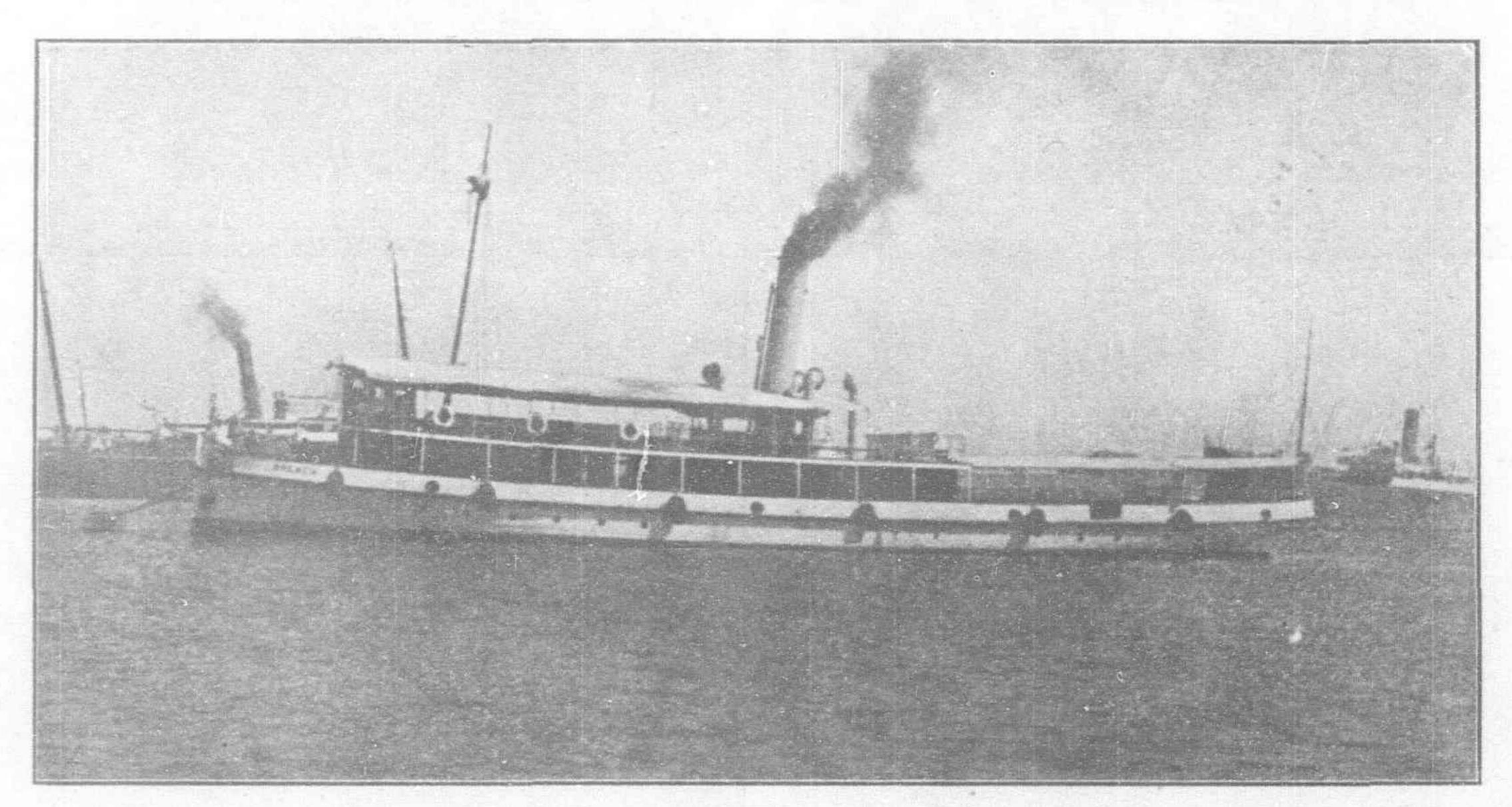
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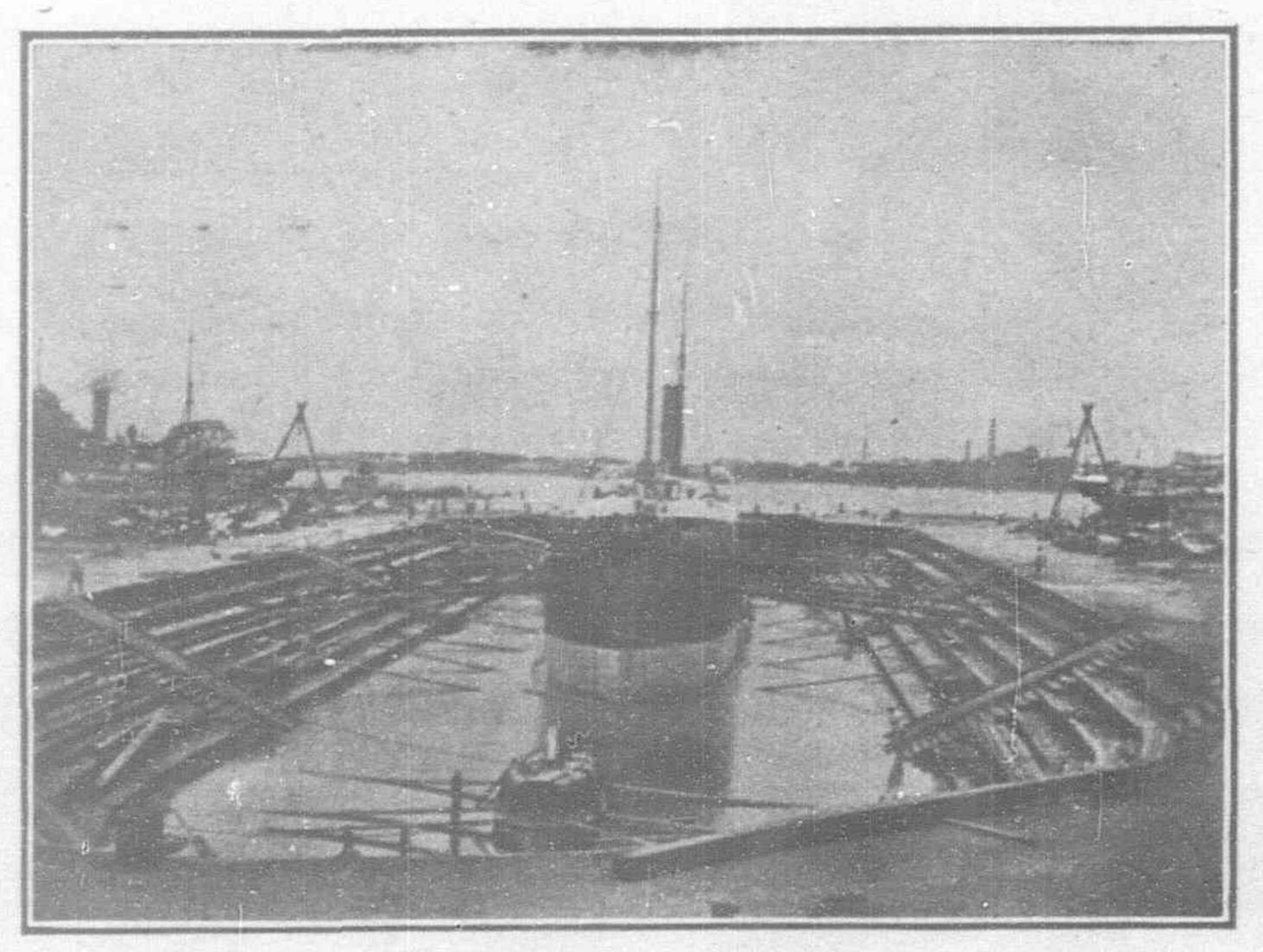
The Dock charges are very moderate.

on the sill from 16 feet to 24 feet.

The Water Frontage is about 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

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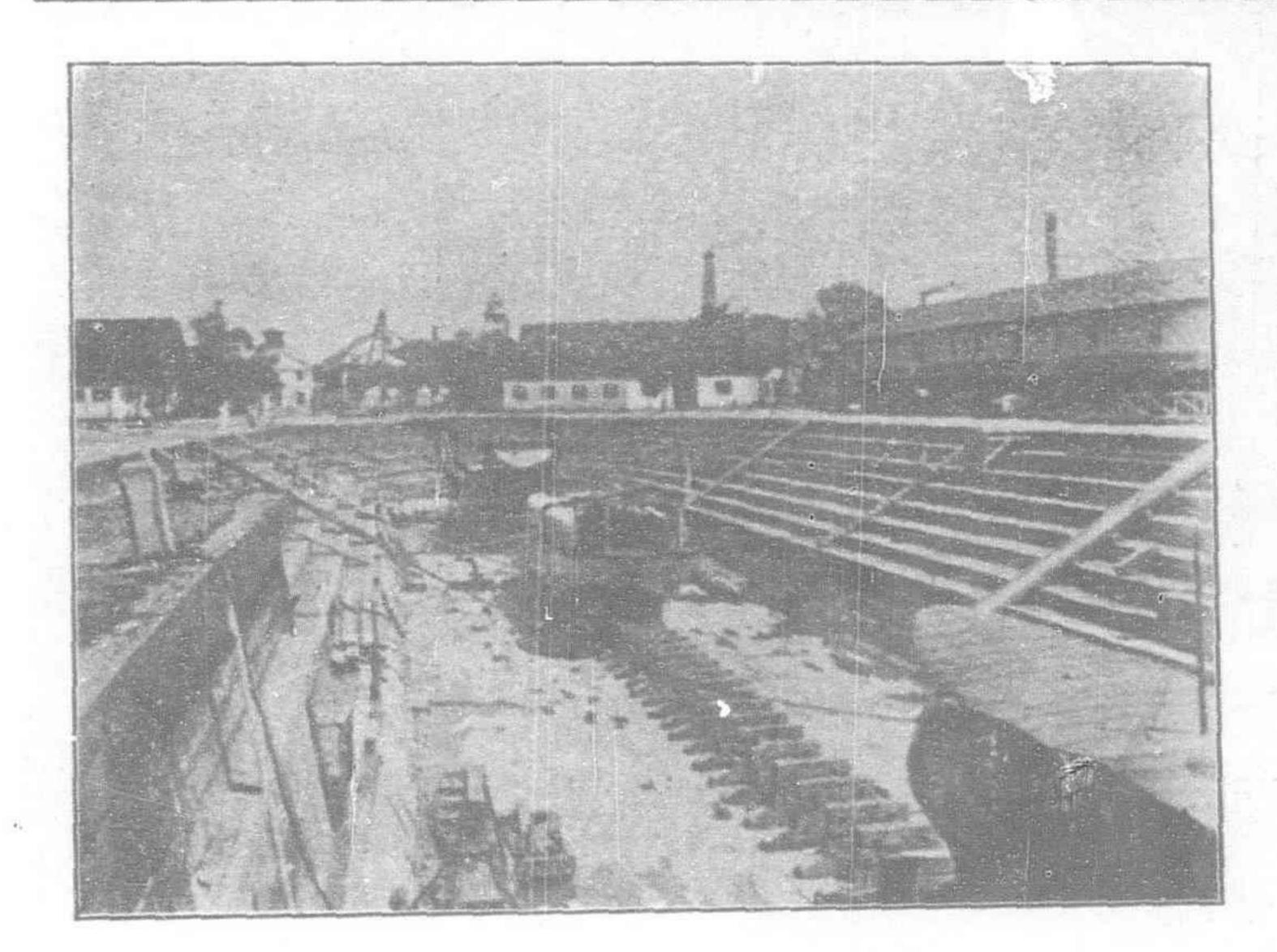
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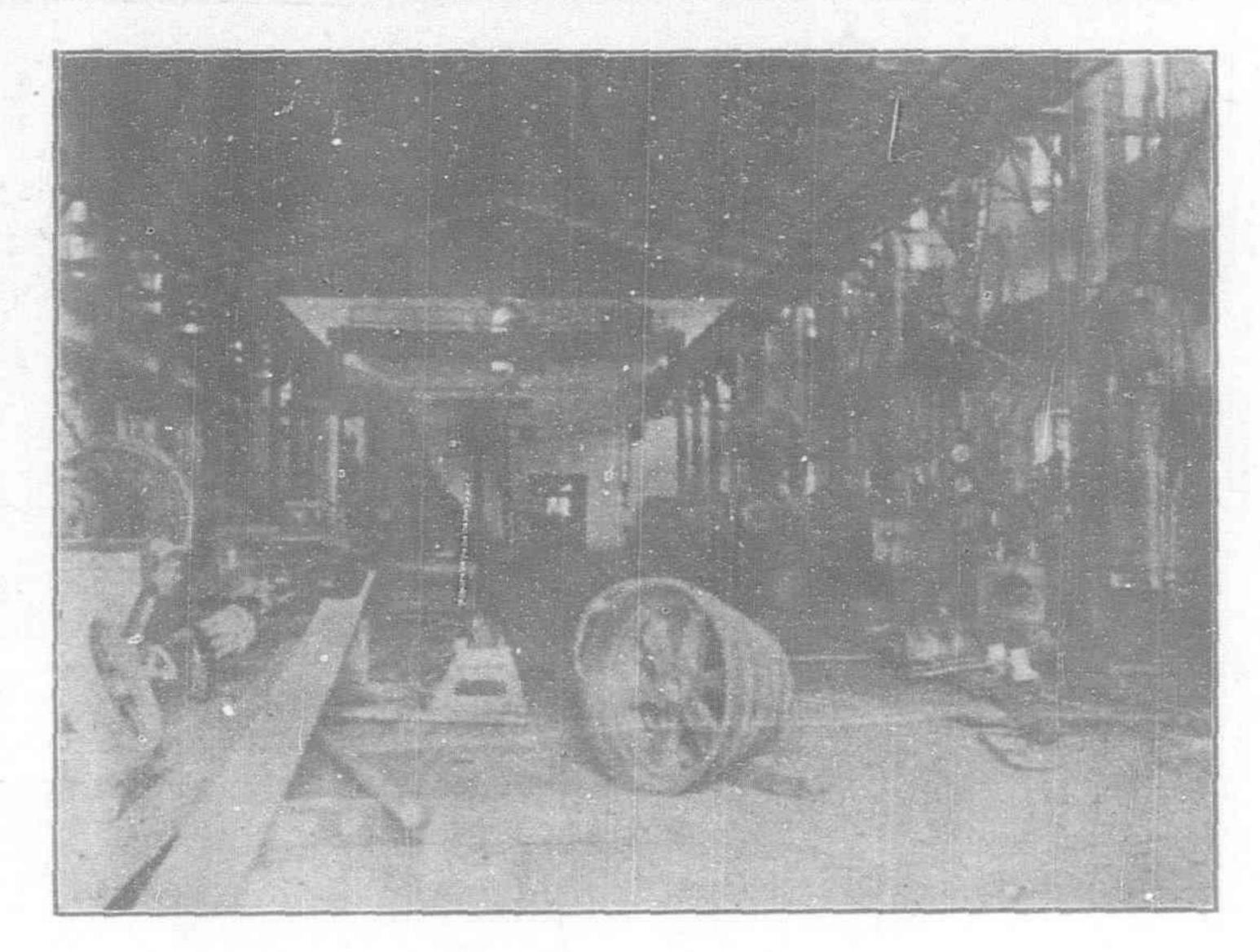
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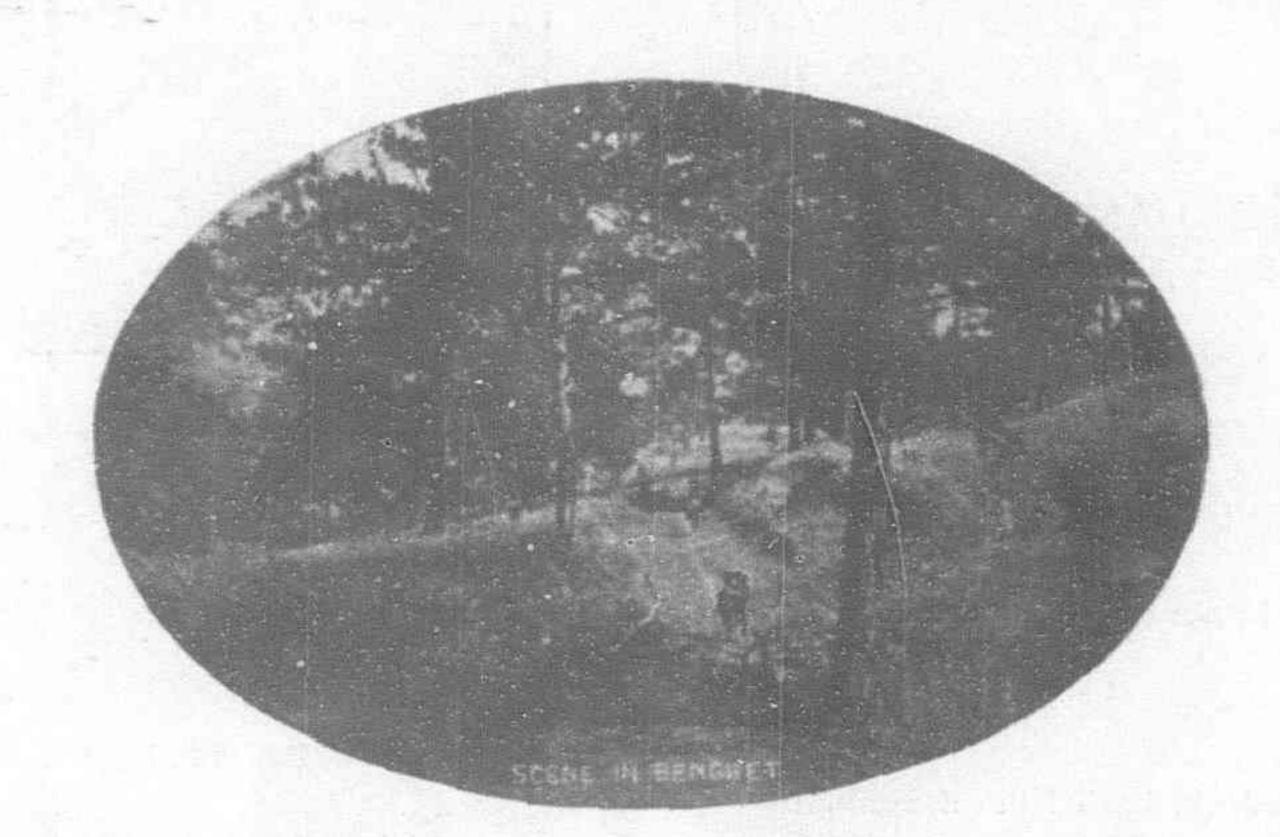
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Manila Dept.	P. M. 2.40 huo	P. M. IO.OO ≥	Dagupan	P. M. 2.55	P. M. 10.00
S. Fernando	4.31 %	11.52	Tarlac	4.59	12 23
Bamban''	5.23 Ep.	12.44 Eps.	Bamban "	5-37 Ep	1.06
Tarlac	6.15	1.41 E	S. Fernando	6.24	2.02 A. M.
Dagupan	8.29	3.50	ManilaArr.	8.10	3.50

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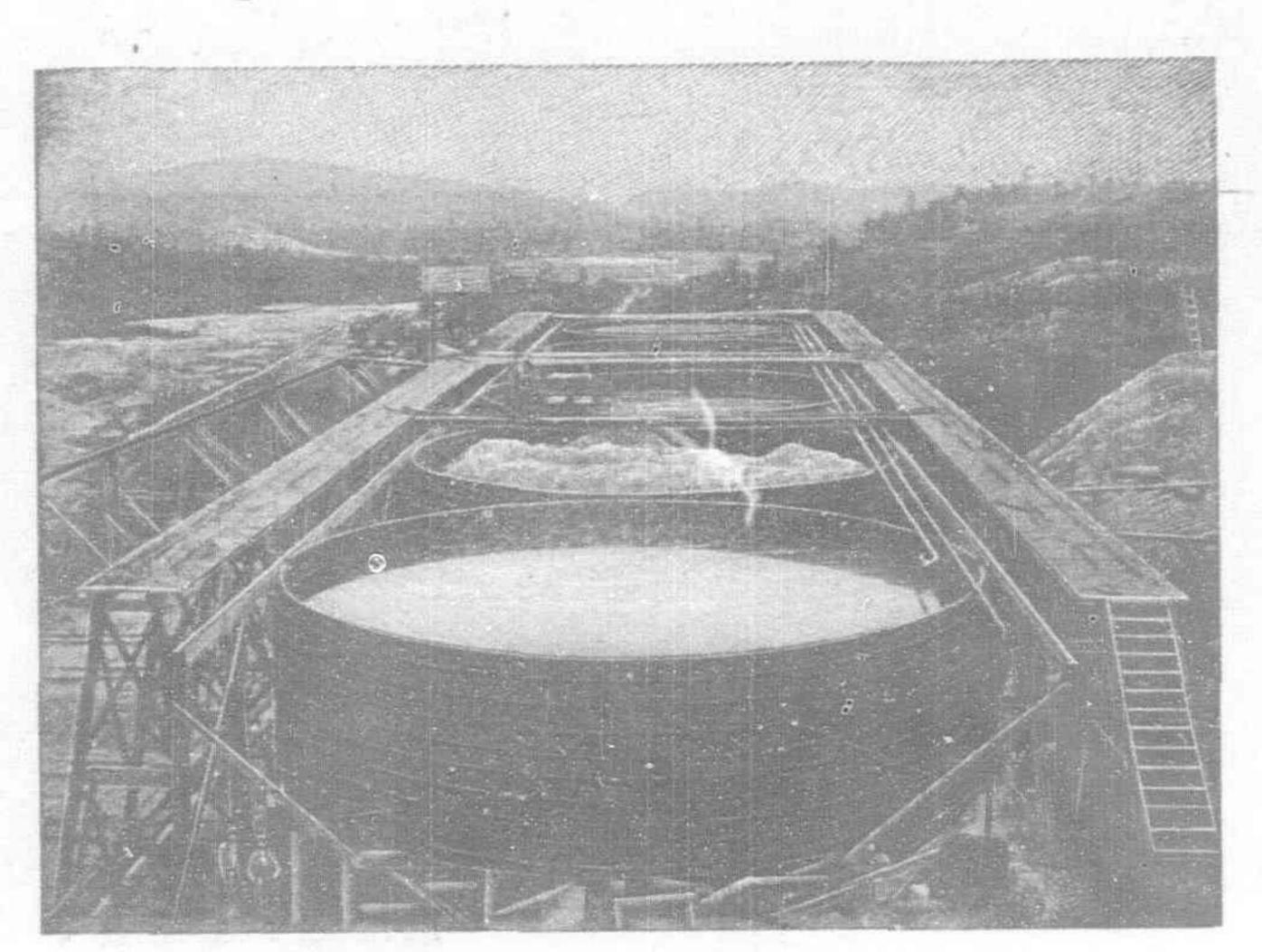
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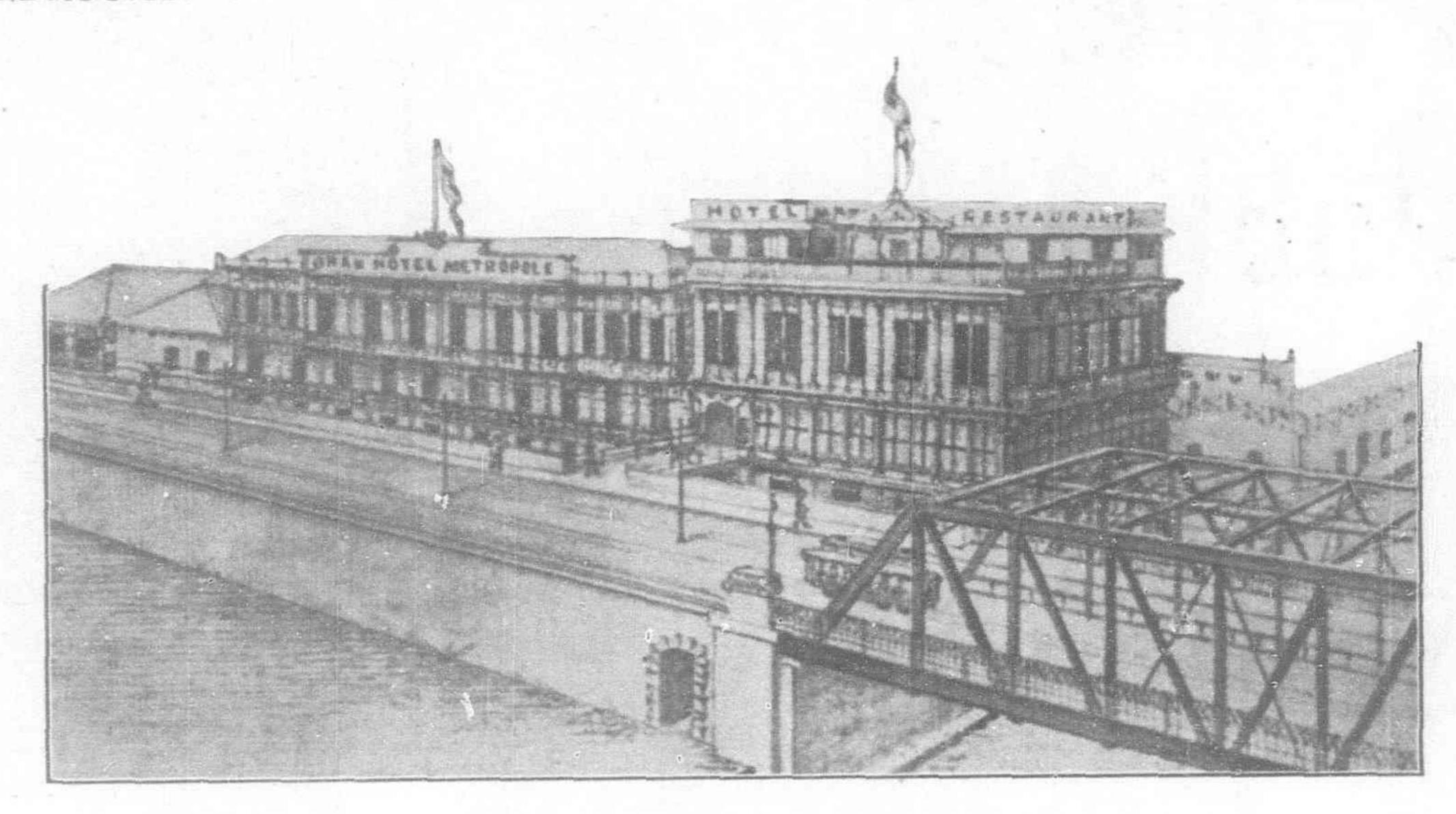
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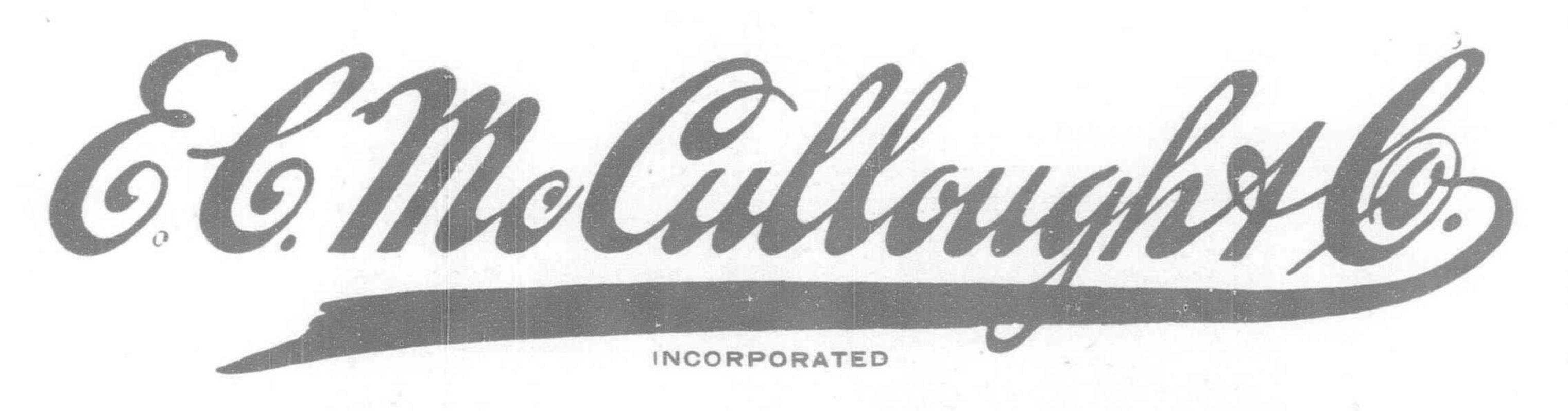


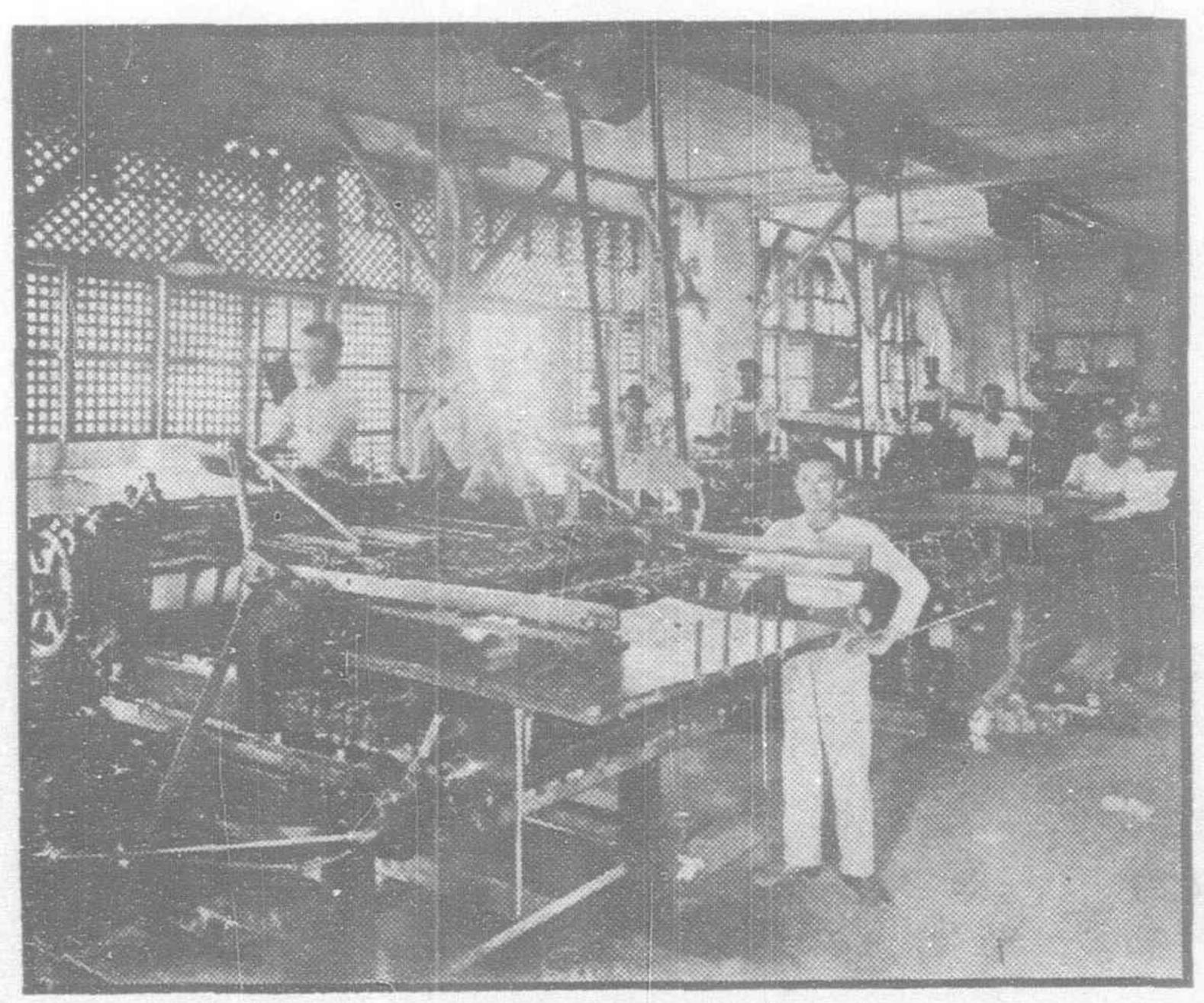
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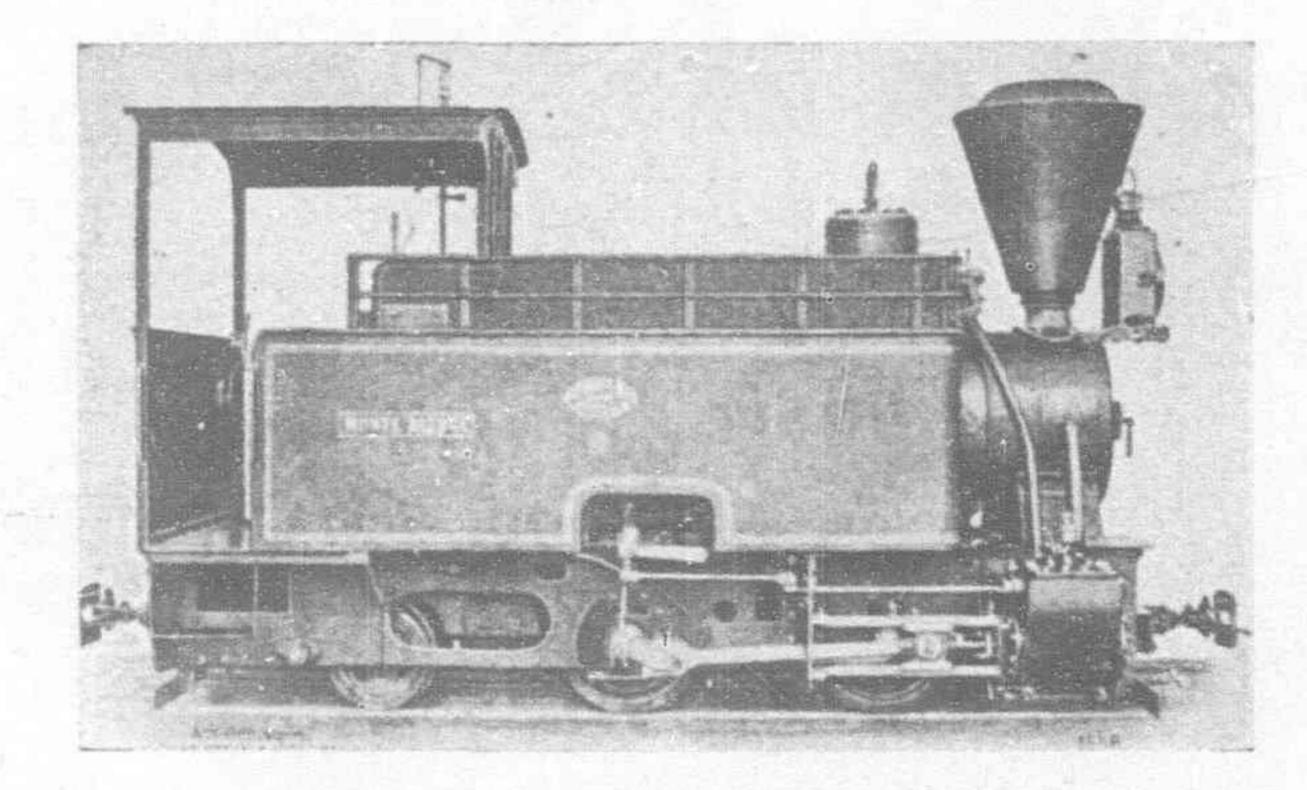
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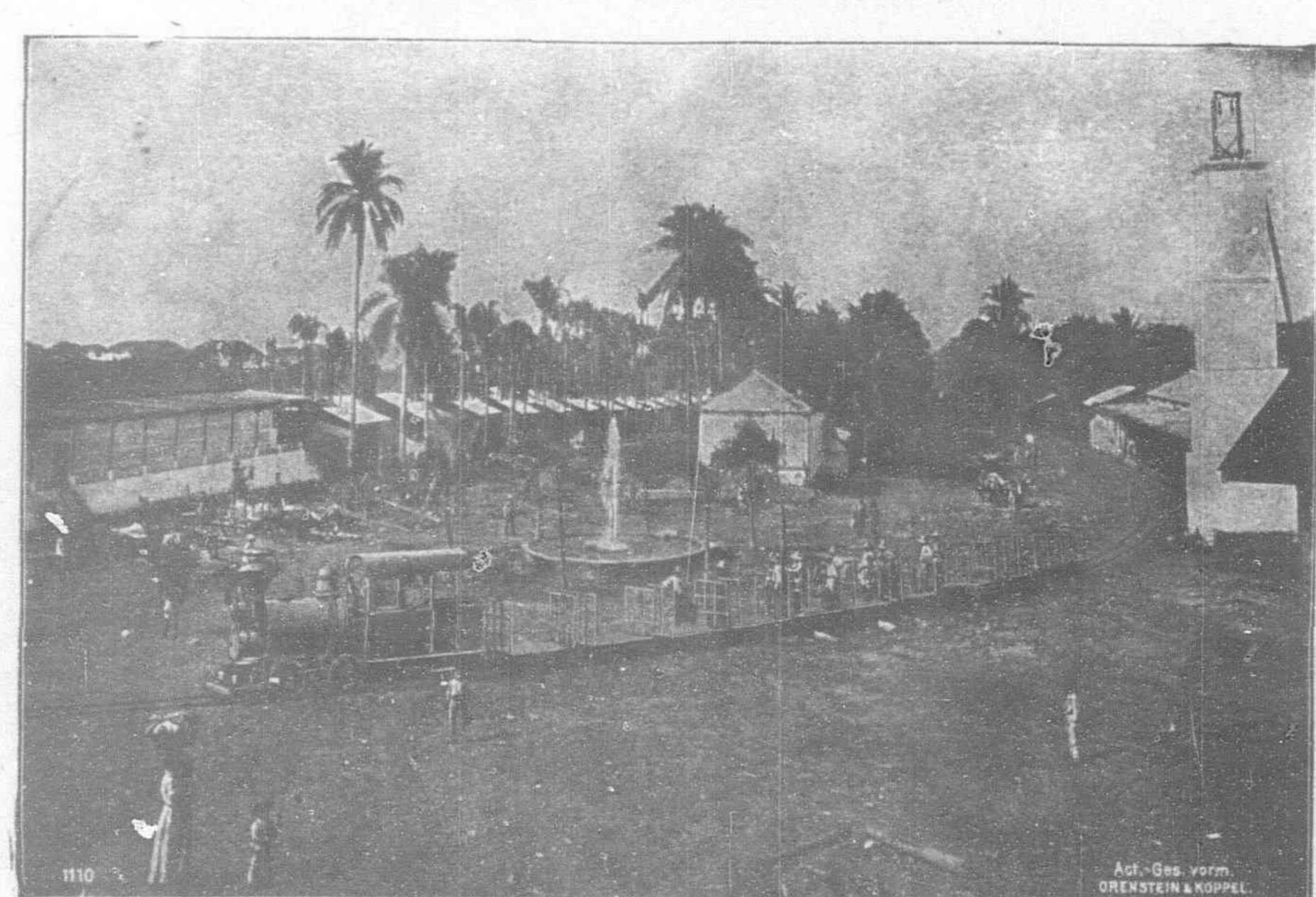
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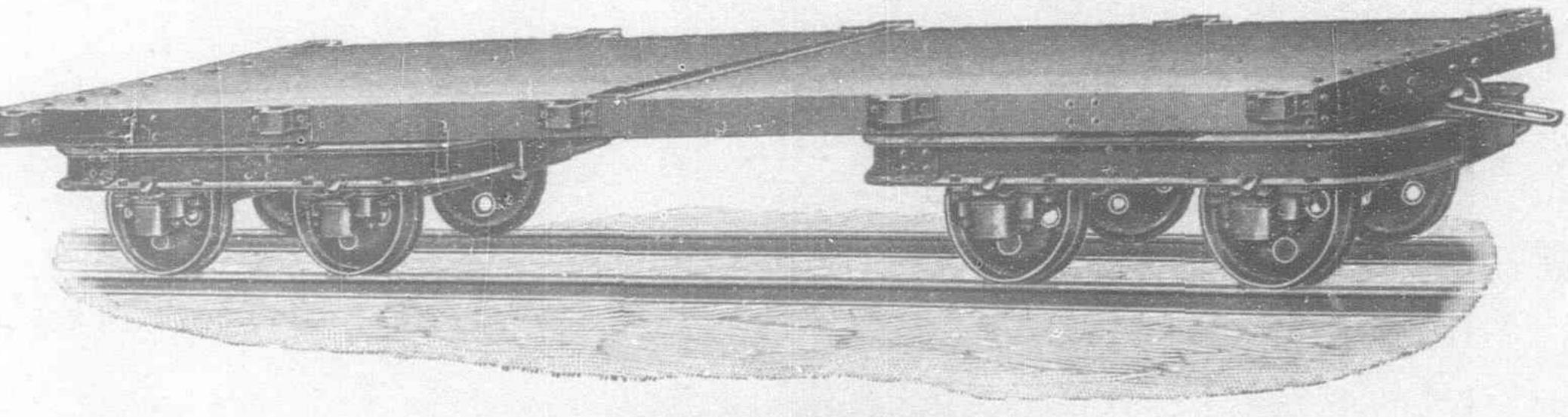
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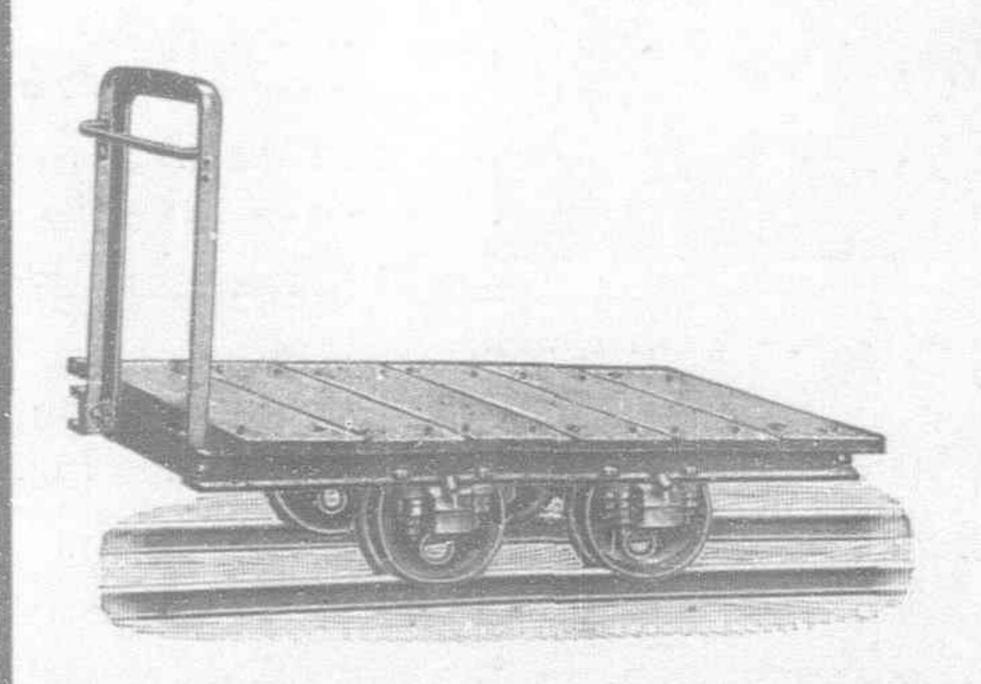


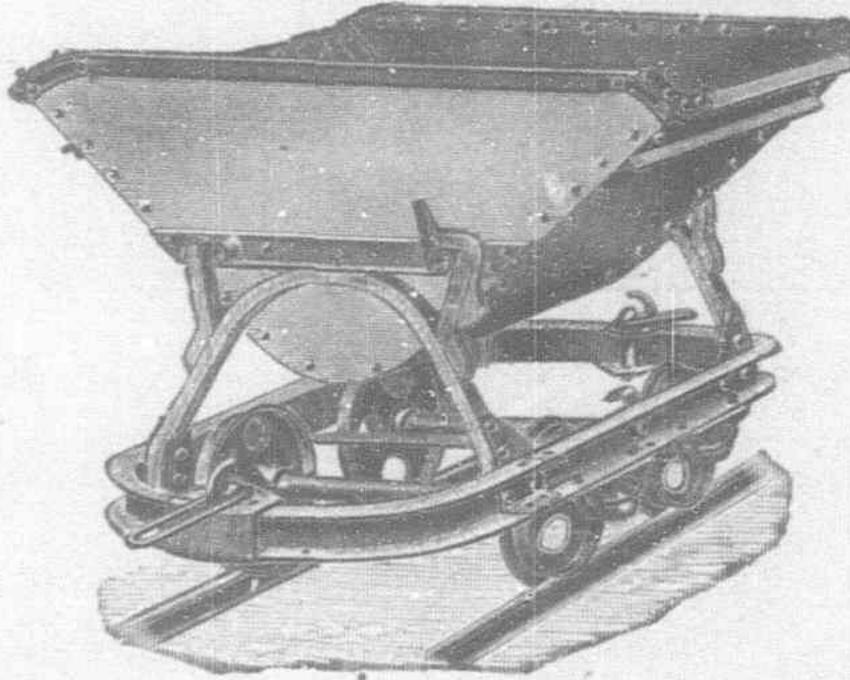
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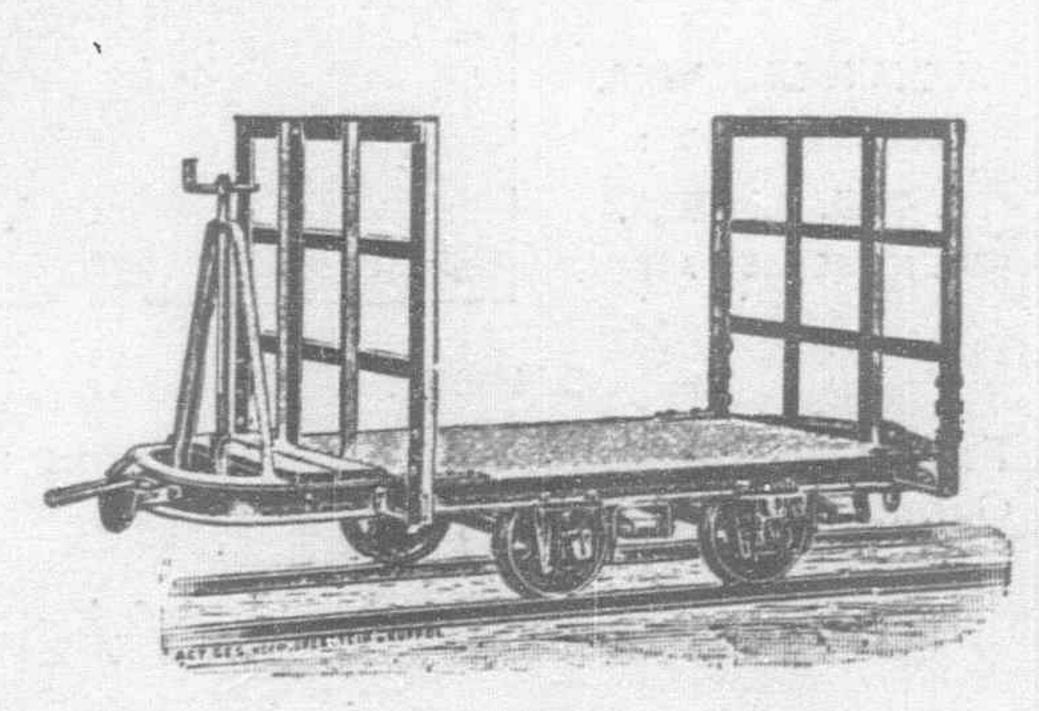
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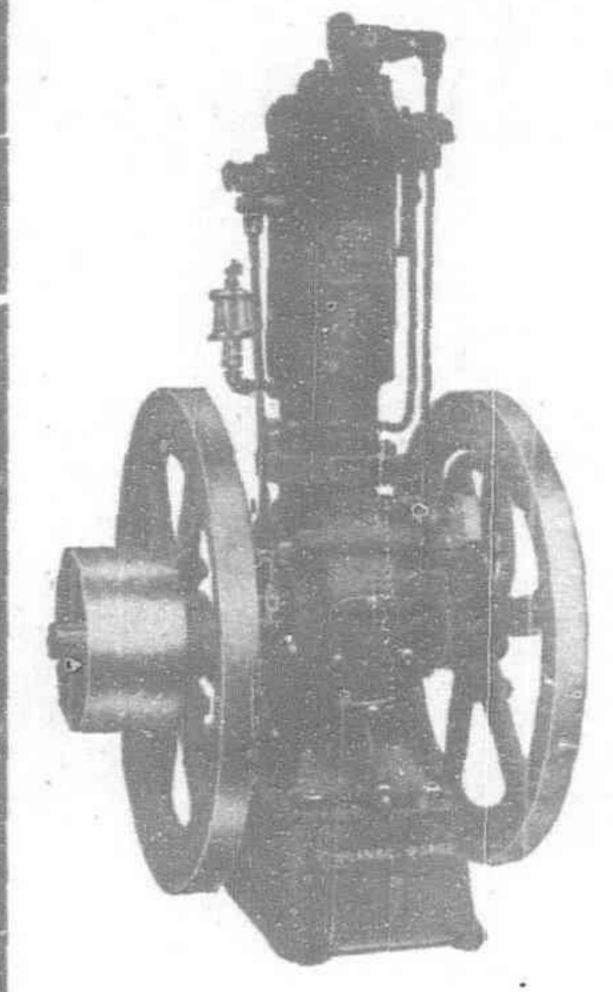


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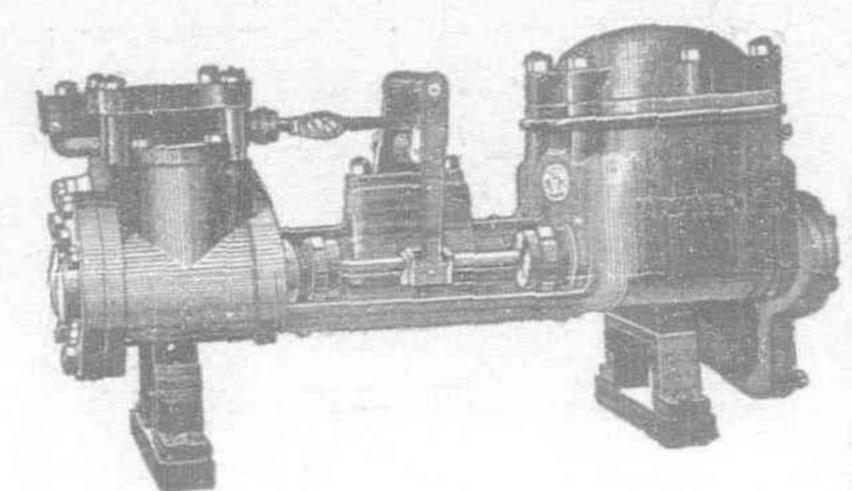






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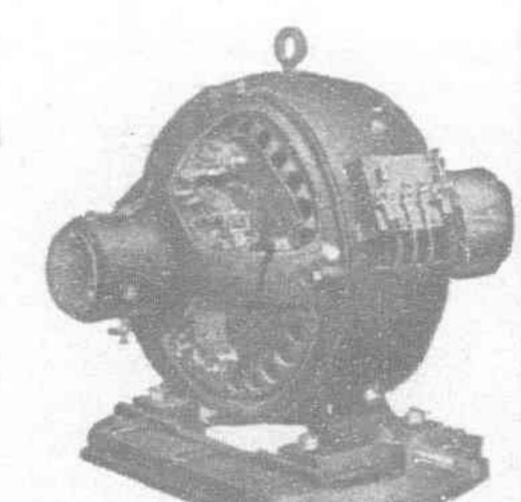


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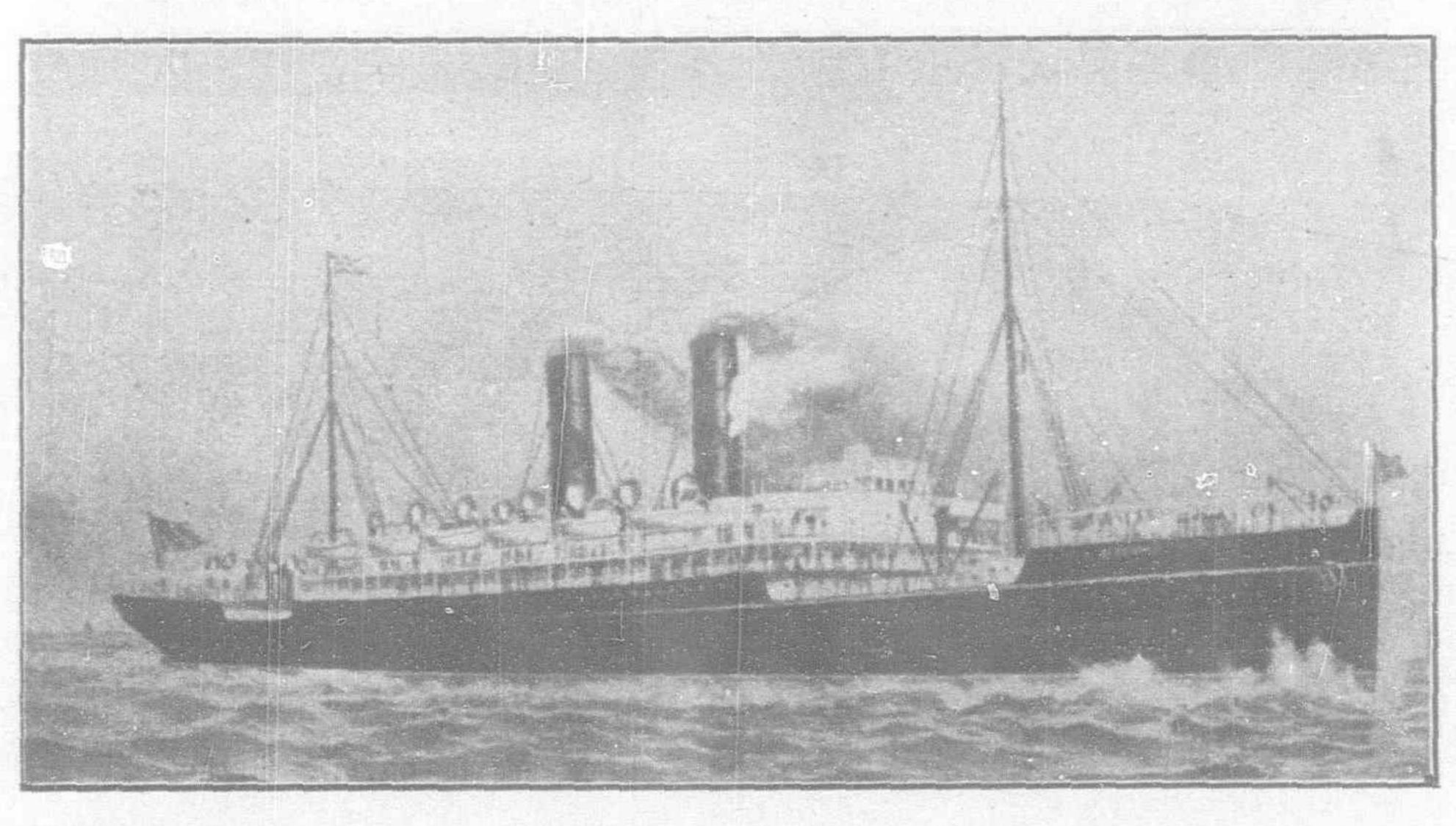
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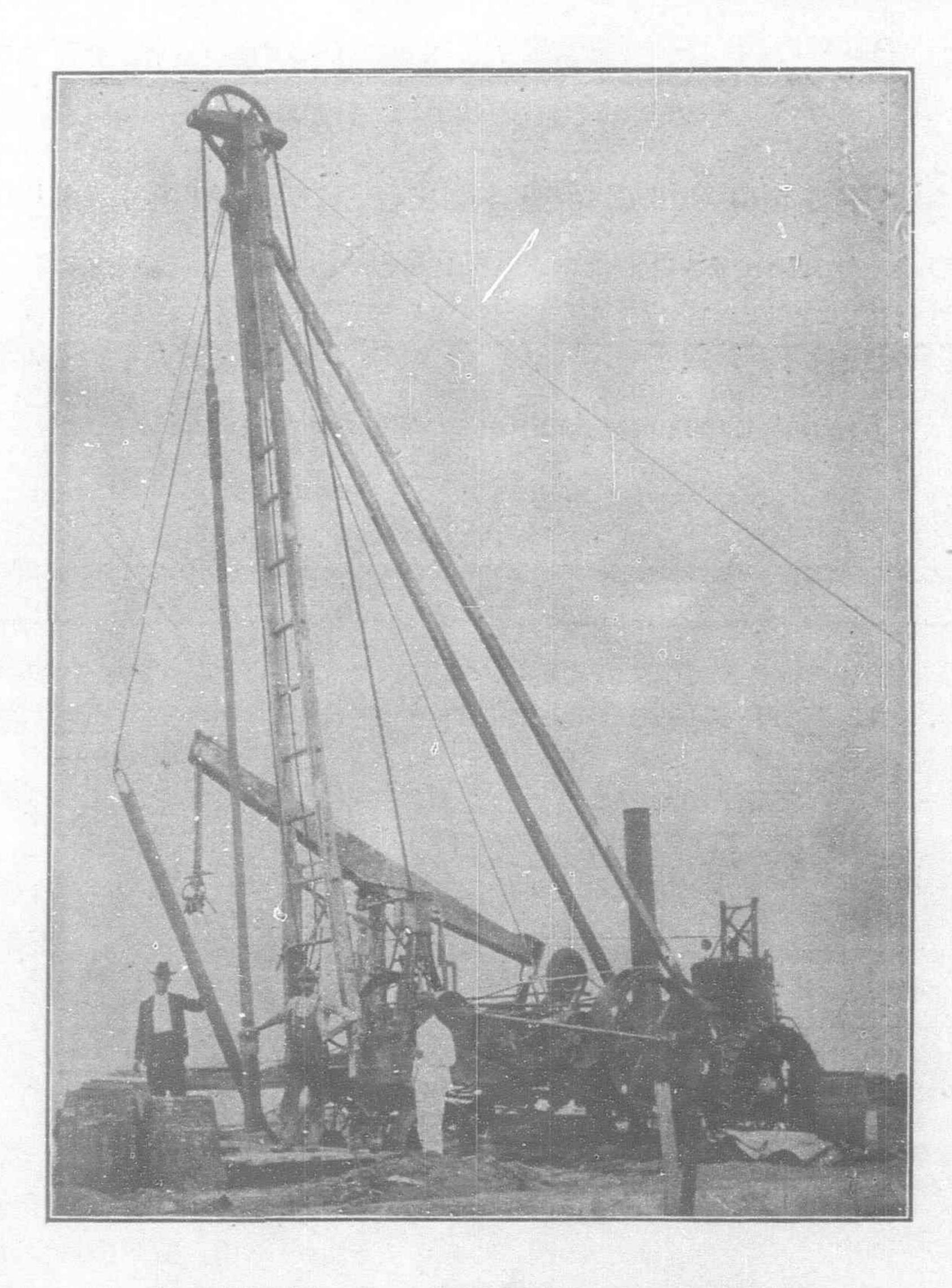
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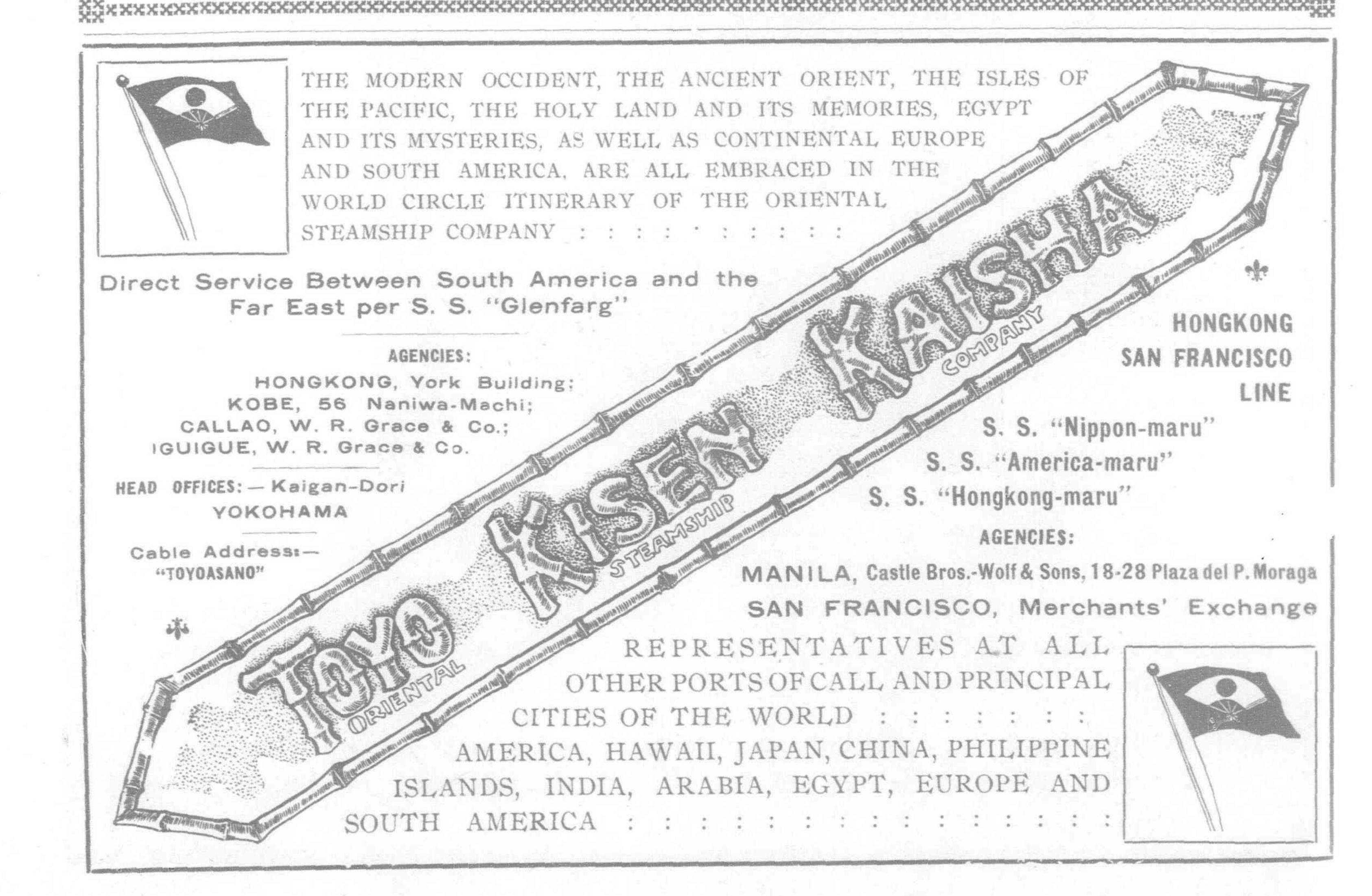
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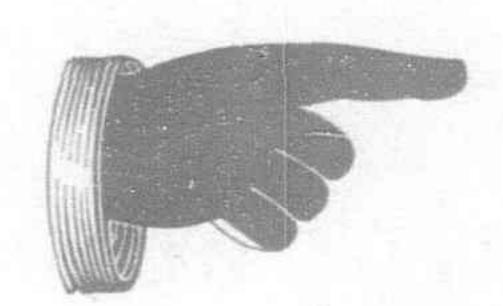
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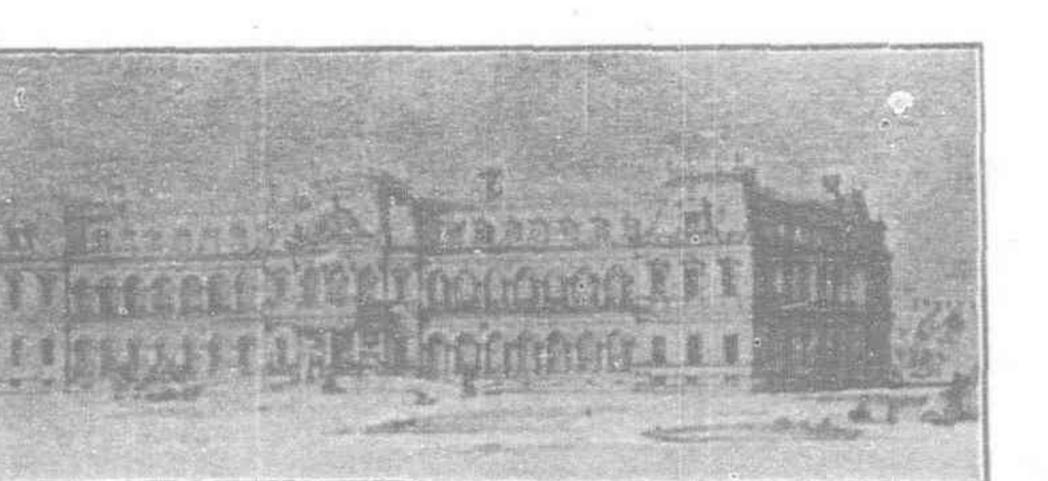
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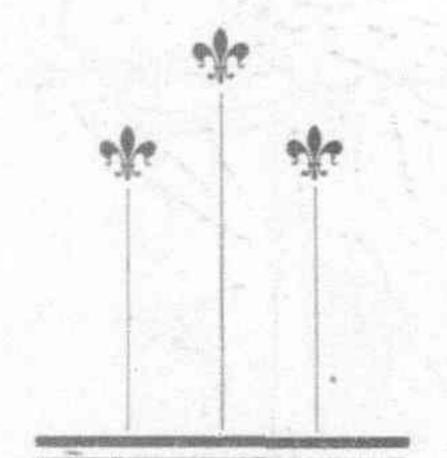
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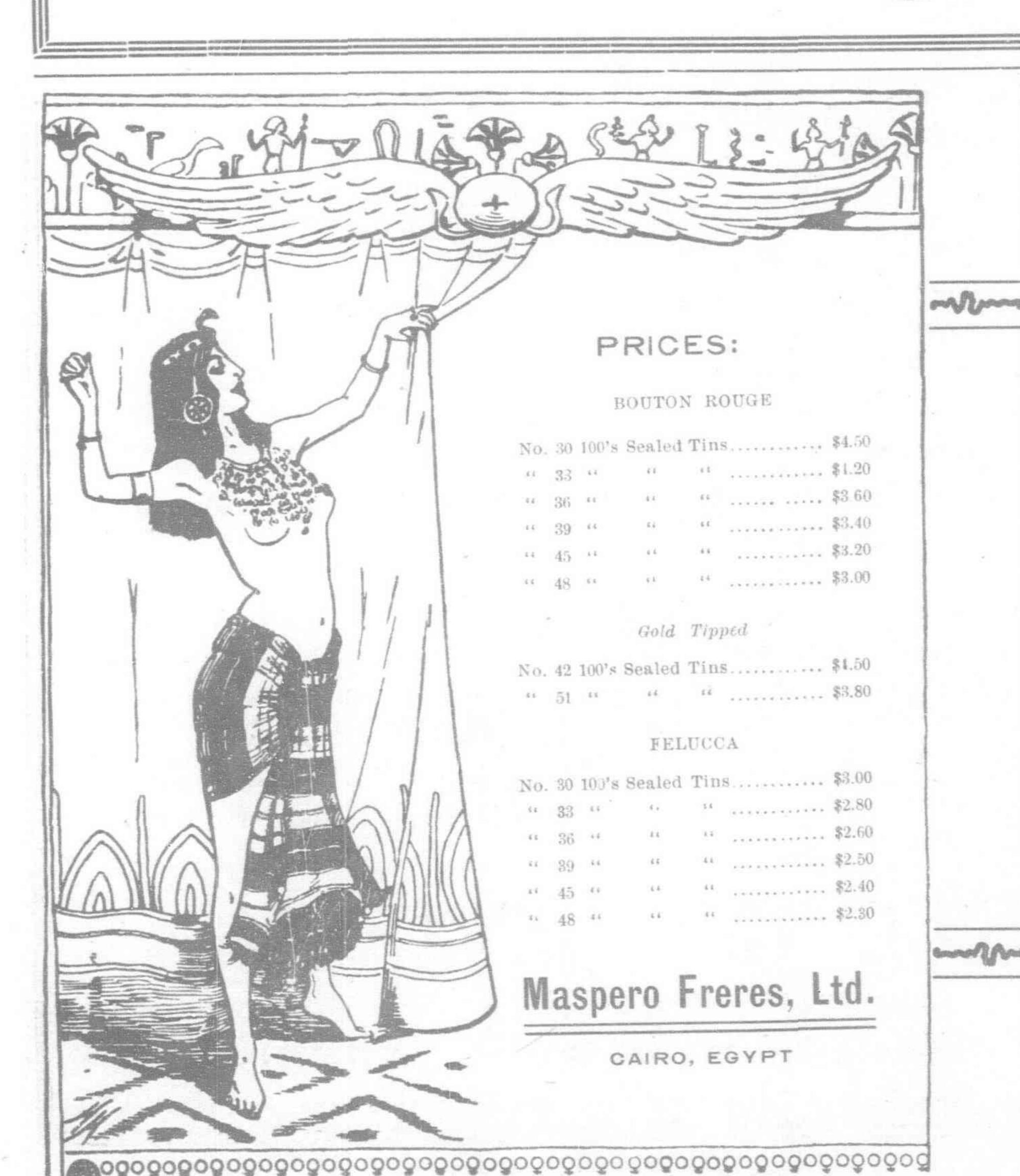
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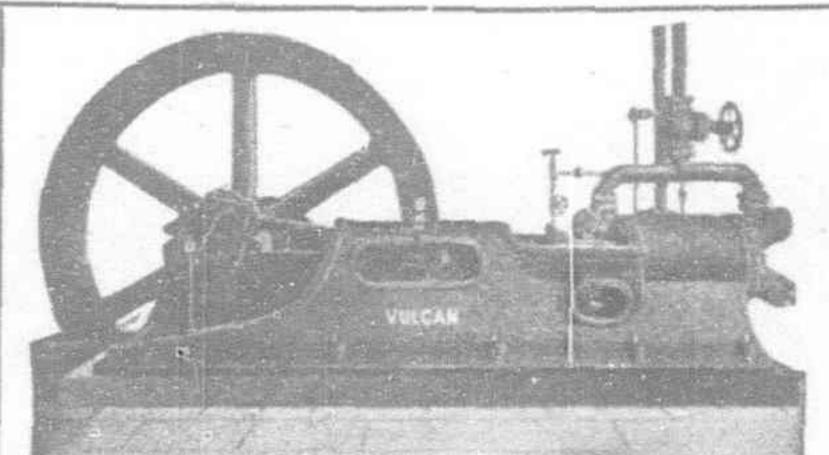
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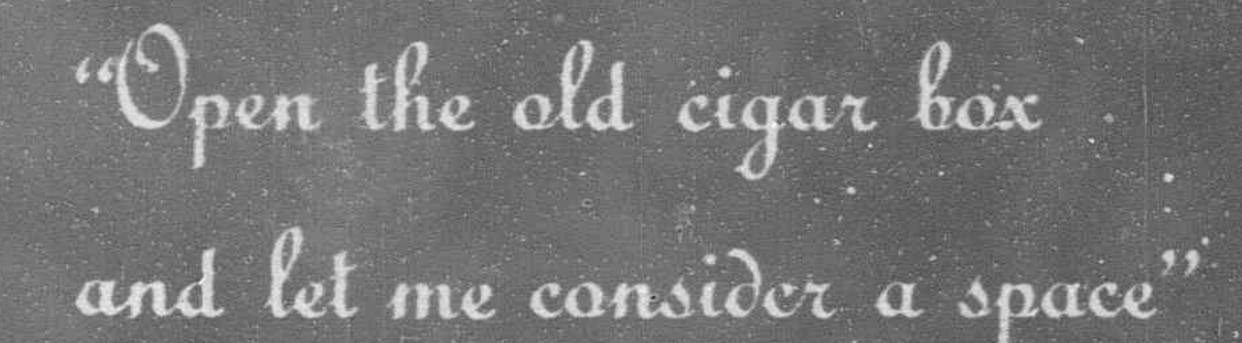
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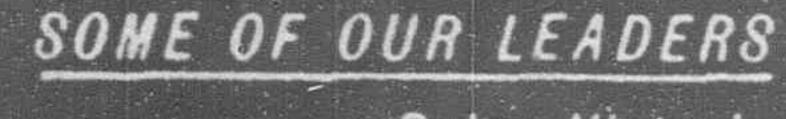
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# OFFIC A

### CEMENT

U. S. Engineer Office, Fort Santiago, Manila, P. I., March 22, 1907.

Sealed proposals for about 50,000 barrels Portland cement, more or less, will be received at this office until 10 o'clock a. m. April 22, 1907, and then publicly opened. Information furnished on application.

### GENERAL SPECIFICATIONS

I. No proposal will be considered unless accompanied by a guaranty, which should be in manner and form as directed. At the option of bidders certified checks for the amount of the guaranty required may be furnished in place of the guaranty.

2. All bids and guaranties must be made in duplicate upon printed forms to be obtained

at this office.

3. Each guarantor will justify in the sum of ten thousand (10,000) dollars. The liability of the guarantors and bidder is determined by the act of March 3, 1883, 22 Statutes, 487, Chap. 120, and is expressed in the guaranty

attached to the bid.

4. The bidder to whom award is made will be required to enter into written contract with the United States, with good and approved security, in an amount of twenty thousand 20,000) dollars within twenty (20) days after being notified of the acceptance of his proposal. The contract which the bidder and guarantors promise to enter into shall be, in its general provisions, in the form adopted and in general use by the Engineer Department of the Army, blank forms of which can be inspected at this office, and will be furnished, if desired, to parties proposing to put in bids. Parties making bids are to be understood as accepting the terms and conditions contained in such form of contract.

5. The proposals and guaranties must be placed in a sealed envelope marked "Proposals for Portland Cement, to be opened April 22, 1907," and inclosed in another sealed envelope addressed to Major John Millis, Fort Santiago, Manila, P. I., but otherwise unmarked. It is suggested that the inner envelope be sealed

with sealing wax.

16. Payment will be made for each lot of 3,000 barrels or more of cement upon acceptance, reserving 15% of the amount due until the acceptance of a succeeding amount of not less than 3,000 barrels, except in case of the final lot delivered under the contract. For the final lot delivered full payment will be due upon acceptance, subject to all other provisions of the contract.

17. The cement shall be what is ordinarily known as regular Portland cement, of some well known brand of high reputation.

20. The cement shall be put up in tight, strongly made and sound wooden barrels capable of standing rough handling. The barrels are to be well lined with strong and reasonably moisture-proof paper, so as to be well adapted for storage for a considerable period in this climate. Each package shall be plainly labeled with the name of the brand and of the manufacturer. It is suggested that bidders be prepared to show sample barrels of the cement it is proposed to furnish if practicable, so that preliminary tests may be made of the cement itself, and also to establish whether the form of package and method of packing are satisfactory.

22. The average net weight of cement per arrel as paid for shall not be less than 375

pounds. If the net weight as determined by the test weighings is found to be below 375 pounds per barrel, the cement may be rejected, or, at the option of the Engineer, it may be accepted and paid for at contract price at the rate of 375 lbs. net per barrel, or the contractor may be required to supply, free of cost to the United States, an additional amount of cement equal to the shortage on any particular lot. No additional payment above contract rate per barrel will be made in case of cement weighing more that 375 lbs. net per barrel.

24. The cement must not show marked indications of the lime in excess. It must not contain more than 1.75% of anhydrous sulphuric acid (SO3) and must not contain more than 4%

of magnesia (Mg O):

36. The cement is to be used partly at Subic Bay and partly at Manila Bay, Island of Luzon. The relative proportions for the two places can not be definitely stated at present, but probably the larger part will be required at Subic Bay.

37. For either place delivery is to be made at Government wharf near works in tight and seaworthy barges or lorchas, provided with proper mooring lines and covering to protect the cement against damage by rain, leakage

or spray.

38. Reasonable assistance in moving and caring for the barges after delivery, while unloading and until taken away, will be given by the Government, but no further responsibility for the barges can be assumed by the Government, and the contractor must provide usual crew to look out for them.

39. Bidders are requested to state prices separately for delivery as follows:

a. In barges or lorchas as specified, at wharf near works, Subic Bay.

b. In barges or lorchas as specified, at wharf

near works, Manila Bay. 40. All barges delivered are to be discharged by the Government without undue delay and as rapidly as practicable after receipt.

41. The first lot of cement delivered to be approximately 8,000 barrels, and this lot is to be delivered within one hundred days from date of notice to the contractor that his bid is accepted. This amount may however be received in smaller lots at earlier dates of delivery, provided the total delivery of 8000 barrels is completed within the 100 days. Thereafter the cement to be delivered as nearly as practicable as called for, which will be in lots of about 8000 barrelseach two months, or with the concurrence of the contractor, in smaller or larger lots at correspondingly smaller or larger intervals between deliveries, until the contract isterminated

42. The right is reserved to increase or decrease the total amount taken by thirty per cent of the 50,000 barrels specified, and in any case no cement is to be called for under this contract at a later date than to reasonably permit final delivery and completion of the contract by June 30, 1908. After such final delivery the contract is to be regarded as terminated. Consideration will be given to bids for a less amount of cement than that specified, if any bidder desires to submit such a bid, but other things being equal precedence will be given to regular bids for the amount specified.

### PROPOSALS FOR COAL:

HEADQUARTERS PHILIPPINES DIVISION, OF-FICE CHIEF QUARTERMASTER, Manila, January 12th 1907.

Sealed proposals in triplicate, for furnishing 60,000 tons of coal to this Department during Fiscal Year 1908 will be received at this office until II a. m. May 1st 1907 and then opened. Information and blank forms furnished on application. Envelopes containing proposals should be endorsed "Proposals for coal" and addressed to the Chief Quartermaster. Philippines Division, Manila.

### DEPARTMENT OF COMMERCE AND POLICE

BUREAU OF NAVIGATION, DIVISION OF PORT WORKS.

Manila, P. I., April I, 1907.

Sealed bids will be received at the office" of the Division of Port Works, Bureau of Navigation, Engineer Island, Manila, P. I., until 11:00 a. m., May 1, 1907, and then publicly opened, for the following property:

(a) One 12 H. P. Bucket Dredge. This dredge has an iron hull, 52 feet long, 151/2 feet beam and 5 feet deep, and is capable of dredging to a depth of 10 feet. A number of extra buckets, chain, sprockets and other fittings will be sold with the dredge.

(b) One set of machinery for Priestman dredge, consisting of base plate, engine, boiler, 2 clam shell buckets, and all necessary parts to equip a dredge of this type except

a hull and some minor fittings.

Proposals must be accompanied by cash or a certified check amounting to ten percent of the bid. Full payment will be required within five days of the acceptance of the offer of the successful bidder. The buyer must remove his property within one week after notification of the acceptance of his bid. The right is reserved to reject any or all bids.

The above machinery may be inspected at Engineer Island, Manila. P. I., where further information will be furnished upon application.

HERBERT DEAKYNE,

Captain, Corps of Engineers, U.S. Army, Chief, Division of Port Works.

### CIRCULAR PROPOSAL

BUREAU OF NAVIGATION Lighthouse Division

Manila, P. I., February 18, 1907. Sealed proposals, in duplicate, for the furnishing and delivery alongside the Lighthouse Wharf on Engineer Island, Manila, P. I., of a Third-Order flashing light for Batag Island, will be received at this office until II o'clock a. m., June 21, 1907, and then publicly opened. Specifications, blank forms and all available information will be furnished upon application to this office.

The Government reserves the right to reject or accept any or all bids, or any part thereof, or to waive any informality in bids.

Proposals must be signed by the bidder, enclosed in sealed envelopes, addressed to the undersigned and maked "Proposals for Batag light: to be opened June 20, 1907."

WILDURR WILLING, 1st Lieut. Corps of Engs., U.S. A., Lighthouse Engineer.

### OFFICE OF THE BUREAU OF SUPPLY

Manila, P. I., March 12, 1907. Sealed proposal, in triplicate will be received at this office up to II a. m. May 15, 1907, when they will be opened in the presence of the attending bidders, for supplying the Insular Government with Thirty Thousand (30,000) tons of Coal for the period from July 1st, 1907, to June 30th, 1908.

Proper forms and specifications may be had

on application to this office.

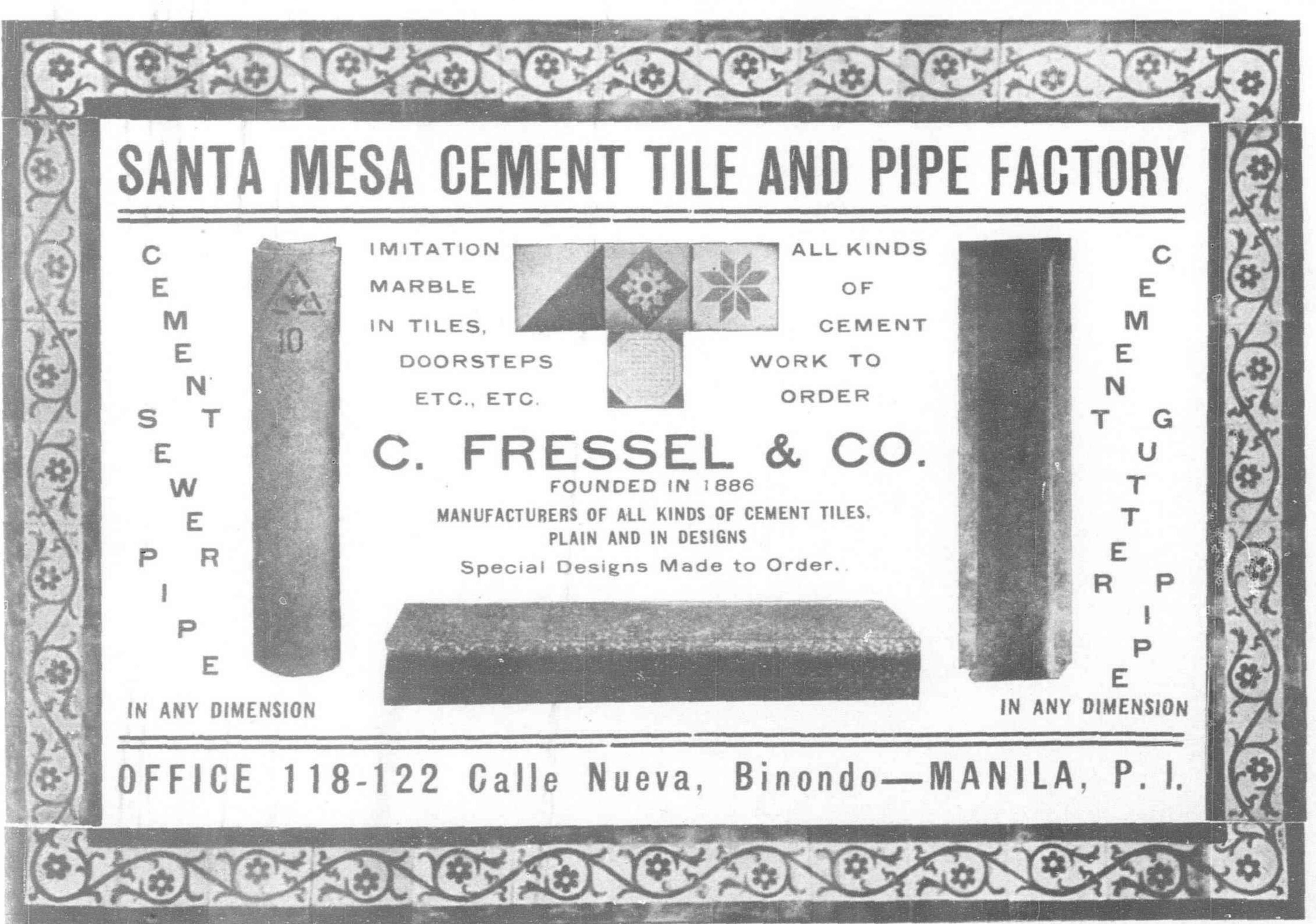
E. G. SHIELDS, Purchasing Agent.

PLANS AND

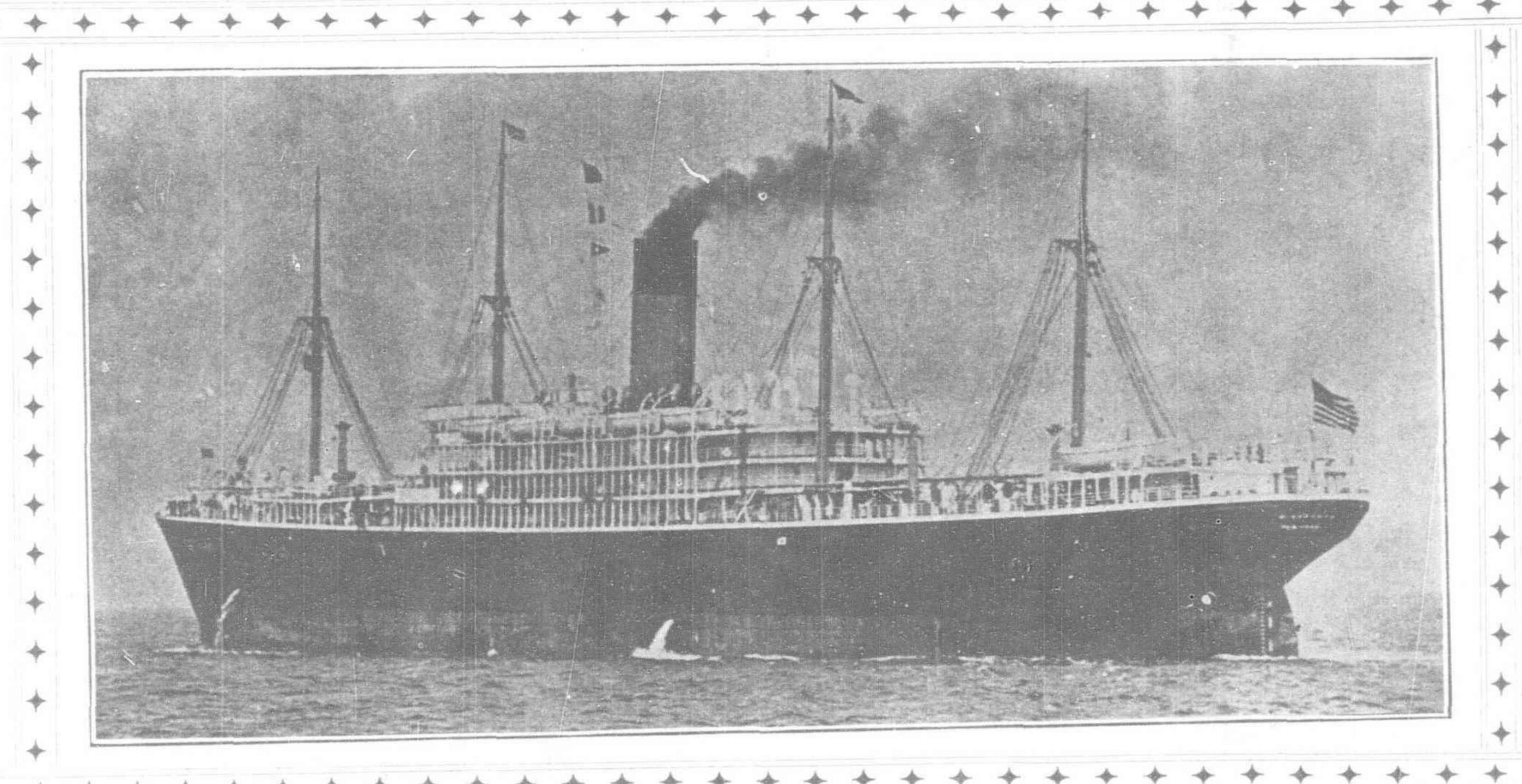
SPECIFICATIONS ON FILE AT OFFICE

FAR EASTERN REVIEW, MANILA, P. I.





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						LEAVE					ARRIVE			
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